Cohort supervision as an approach at postgraduate level: A conceptual framework for an open distance e-learning university

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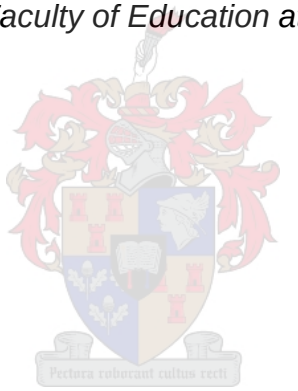

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Declaration

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Date: March 2020

Abstract

The production of postgraduate students is a national priority, since South Africa is in desperate need of a new generation of researchers to support national growth and development. Many under-prepared students entering higher education have poor writing skills and limited methodological content knowledge, specifically at postgraduate level. In an open distance e learning (ODeL) environment where temporal, geographic, and communication distances exist between students and supervisors, the traditional apprenticeship supervision approach largely fails to enable supervisors to provide sufficient support and guidance to postgraduate students. The study aimed to explore the conceptualisation of a cohort supervision framework as an alternative supervision approach that may improve supervision support.

Following a bricolage design, a thematic analysis identified key components to consider in the conceptualisation of a cohort supervision framework in an ODeL environment. Based on the thematically identified elements, semi-structured interviews explored additional dynamics to consider in the conceptualisation process.

The study is reported in four chapters. The first chapter provides a background to the study. The second chapter focuses on the use of a thematic analysis to propose a four-stage cohort supervision framework for an ODeL university. The third chapter presents information on additional dynamics to consider, based on input from key experts in the field, obtained through semi-structured interviews. The final chapter concludes the study with implications for future research.

Related to an ODeL supervision environment, the main findings indicate that a structured approach is required through the key stages of the research process. Students need support to complete their research proposals, write chapters and collect and analyse data, and complete the final research product using technological tools and online engagement to overcome the temporal and geographical separation between students and supervisors. The cohort, comprising of a number of supervisors and students who engage in an online context, provide collaboration through active communities of practice to support each other continuously. This includes providing critique and feedback on work in progress and encouraging dialogism on methodological compounds. Two aspects specific to the ODeL context make the application of the proposed four-stage cohort supervision framework

unique in that it can offer emotional support to overcome feelings of isolation, often associated with distance education, and technology can be used to create the infrastructure for engagement, feedback, collaboration and sharing of resources. Commitment is expected from all members of the cohort to participate in these activities. As the focus of the research was only on creating a conceptual framework for an ODeL environment, more research is required to implement, assess and revise the framework, so that cohort supervision can be used effectively as an alternative supervision approach in distance education.

Opsomming

Die suksesvolle voltooiing van nagraadse kwalifikasies is ‘n nasionale prioriteit, aangesien Suid-Afrika ‘n nuwe generasie van navorsers benodig om nasionale groei en ontwikkeling te ondersteun. Vele onvoorbereide tersiëre studente het swak skryfvaardighede en beperkte metodologiese inhoudskennis, veral op nagraadse vlak. In ‘n elektroniese oop afstandsleeromgewing waar daar temporale, geografiese en kommunikasie afstande tussen studente en studieleiers bestaan, faal die tradisionele-vakleerlingskap-studieleiding-benadering om studieleiers te bemagtig om voldoende ondersteuning en leiding aan nagraadse studente te verskaf. Die navorsing het as doel gehad die verkenning van die konseptualisering van ‘n kohort studieleidingraamwerk as alternatiewe studieleiding-benadering, wat studieleidingondersteuning moontlik kan verbeter.

Met behulp van ‘n *bricolage* ontwerp het ‘n tematiese analise dit moontlik gemaak om belangrike komponente te indentifiseer, om te oorweeg in die konseptualisering van ‘n kohort studieleidingraamwerk vir ‘n elektroniese oop afstandsleer universiteit. Gebaseer op die tematies-geïdentifiseerde elemente is semi-gestruktureerde onderhoude ontleed om addisionele eienskappe / veranderlikes / invloede te oorweeg in die konseptualiseringsproses.

Die navorsingstudie word weergegee in vier hoofstukke. Die eerste hoofstuk verskaf ‘n agtergrond tot die studie. Die tweede hoofstuk fokus op die gebruik van ‘n tematiese analise om ‘n kohort studieleidingraamwerk wat uit vier stadiums bestaan, vir ‘n elektroniese oop afstandsleer-omgewing voor te stel. Die derde hoofstuk bevat inligting oor addisionele eienskappe / veranderlikes / invloede om in ag te neem, gebaseer op insae van kenners in die veld, verkry deur semi-gestruktureerde onderhoude. Die laaste hoofstuk sluit die studie af met gevolgtrekkings vir toekomstige navorsing.

In die konteks van oop afstandsleerstudieleiding dui die hoofbevindinge aan dat ‘n gestruktureerde benadering gevolg moet word gedurende die verskillende stadiums van die navorsingsproses. Studente behoort ondersteun te word om hulle navorsingsvoorstelle te voltooi, hoofstukke te skryf, data te versamel en te ontleed en die finale navorsingsproduk af te rond met die gebruik van tegnologiese instrumente en aanlynbetrokkenheid, om die temporale en geografiese verwydering tussen studente en studieleiers te oorkom. Die kohort, wat bestaan uit studente en studieleiers, behooort mekaar voortdurend te

ondersteun deur samewerking en aktiewe praktykgemeenskappe. Dit sluit in om opbouende kritiek en terugvoer te gee gedurende die navorsingsproses, dialogisme oor metodologiese verbindings te bevorder en om emosionele ondersteuning aan te bied om ervarings van afsondering, wat dikwels met afstandsonderrig vereenselwig word, te verminder. Tegnologie kan gebruik word om die infrastruktuur te skep vir betrokkenheid, terugvoer, samewerking en die deel van hulpbronne. Oriënteringsessies, werkswinkels, seminare, terugvoer en sosiale interaksie, hetsy aanlyn, behoort gedagboek te word, en die verbintenis van elke lid van die kohort om deel te neem aan die aktiwiteite moet verkry word. Aangesien die fokus van die navorsing alleenlik was om ‘n konseptuele raamwerk te ontwerp vir ‘n elektroniese oop afstandsleer-omgewing, word verdere navorsing benodig om die raamwerk te implementeer, assesseer en aan te pas, sodat kohort studieleiding effektief toegepas kan word as ‘n alternatiewe studieleiding-benadering in afstandsonderrig.

Acknowledgements

This was done by the Grace of God. That Grace gave me the strength to endure.

Thank you to my husband Dawie, for all the information searches, editing, analytical discussions, encouragement and being my emotional rock. This is for you:

There's roads and there's roads.
And they call. Can't you hear it?
Roads of the earth, and roads of the spirit.
The best roads of all are the ones that aren't certain.
One of those is where you'll find me,
Til' they drop the big curtain.
(Bruce Cockburn)

To my supervisors, Prof Liezel Frick and Prof Peter Rule and the other lecturers at Stellenbosch University, this was an interesting and developmental experience. Thank you for your contributions in making this discipline come alive for me. Also thank you to the experts that were willing to be interviewed. I was privileged to drink from your cup of knowledge.

To my family, friends and colleagues, especially Prof Yolanda Sadie for the thematic analysis suggestion, thank you for your support. They say absence makes the heart grow fonder… I hope that it's true.

To all my four-legged children, your unconditional love kept my soul alive.

I am a writer. As such, I often see myself as a bloodied and wounded soldier staggering around a battlefield in an attempt to conquer the blank page (Fox & Bayat, 2008).

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Chapter 1: Introduction

1.1 Background to the study

Postgraduate supervision is a key practice at universities worldwide and the pinnacle of academic engagement (Wisker, 2012:2). In an era where pressure on higher education institutions to contribute to the knowledge economy is ever increasing, postgraduate supervision practices that focus on expanding student throughput rates and research outputs are becoming key in moving towards global competitiveness. The production of postgraduate students is a national priority, as South Africa needs a new generation of researchers to drive growth and development (De Lange, Pillay & Chikoko, 2011:16). This is in line with the key priority areas of the National Development Plan 2030 (South African Government, 2019) and the Sustainable Development Goals (United Nations, 2019), which require action through research, *inter alia*, to promote prosperity for people and the planet. From a neo-liberal perspective, the emphasis on increasing research outputs is aligned towards using knowledge as a powerful economic commodity for countries striving towards economic advancement (Fourie-Malherbe, Aitchison, Bitzer & Albertyn, 2016).

In contrast to the neo-liberal ideology, is the opinion that the primary focus of universities is on knowledge development (Reichert, 2019:12). Universities are to be knowledge producers; responsive and adaptable to cater for innovative knowledge and skills development. Florida, Gates, Knudsen and Stolarick (2006:2) refer to the role of universities as innovative creators of technology, talent and tolerance. Universities are at the cutting edge of technological innovations, affecting talents both directly and indirectly. Opportunities for exploration, innovation and creativity is a requisite to promote new ideas and social diversity. Universities are ‘knowledge hubs’ that focus on indigenous development, expansion of new capabilities and innovation advancements (Youtie & Shapira, 2008:1189). The process of creating, acquiring, diffusing and deploying knowledge is at its core; shaping higher education, where knowledge acts as the foundation for individual, as well as societal development (Owen, 2014). Achieving traditional and neo-liberal goals of higher education require that the number of researchers, and by implication the number of postgraduate students, increase through the offering of quality higher degrees (Manyike, 2017:2).

Swarts (2017:229) explains that increasing the number of postgraduate students that successfully complete their degrees in South Africa, is a complex process. Due to historical circumstances, previously disadvantaged students have not received quality education. Many postgraduate students experience challenges in managing higher education research practices (Department of Higher Education and Training, 2013:2). Under-preparedness, poor writing skills and limited methodological content knowledge are some of the factors that hamper the progress of postgraduate students (Manyike, 2017:1). Bireda (2019:24) alludes to similar issues that are experienced by international students and explains that it is important to provide extensive support to assist postgraduate students to overcome language barriers and to enhance their critical analytical skills. Supervision pedagogies become critical to provide support and guidance to postgraduate students (De Lange et al., 2011:15). This is reiterated by the view that improved supervision practices are crucial among the many factors required to support postgraduate students (Donnelly, 2013:357; Manyike, 2017:1). Thus, the importance of supervision as a key factor in student research progression cannot be underestimated (Lee, 2008:267).

The growing number of students entering higher education and the resultant increased burden on supervisors to support students raise the question whether existing supervision approaches are still relevant within the current higher education context. Mouton, Boshoff and James (2015:3) state that the number of students enrolling for PhD's in South Africa doubled between 2000 and 2009. The doctoral supervision load increased from 4600 academics supervising 5100 students in 1996, to 6700 academics supervising 13 900 students in 2012 (Cloete, 2016:3). On average, a supervisor is responsible for five master's and three doctoral students, with this number continually increasing (Mouton et al., 2015:3).

In addition to supervising increasing numbers of students, the responsibilities of supervisors have been expanded to include the offering of functional support, quality assurance, mentorship, facilitating of enculturation into the academy, critical thinking and emotional support (Fynn & Janse van Vuuren, 2017:188). The growing burden on supervisors requires the exploration of new ways to guide students quickly and effectively to complete their postgraduate studies (Bitzer & Albertyn, 2011:977;

Donnelly, 2013:357; Santicola & Morris, 2013:253; Mouton et al., 2015:3; Van Biljon, Van Dyk & Naidoo,2014:166).

Even more daunting is successful supervision at an open distance e-learning (ODeL) institution (Van Biljon & De Villiers, 2013:1445). Students in distance education are increasingly from diverse and often previously disadvantaged groups[1]. These students are new to the research process and lack a culture of scientific investigation (Manyike, 2017:2). They need more support, structured planning, engagement with other knowledgeable individuals and timely feedback. The use of traditional supervision practices, especially in distance education, is coming under increasing attack because of the inability of individual supervisors to supervise large numbers of students. Within an ODeL context, supervision challenges are further compounded by limitations of temporal, spatial, economic, social, educational and communication distances between supervisors and students (Van Biljon et al., 2014:166; Heeralal, 2015:96).

This research materialised because of the increasing demand for supervision, complicated by the growing number and diversity of postgraduate students within an ODeL environment. Although various aspects of supervision in distance education have been researched (including postgraduate needs, expectations and skills), the use of alternative supervision approaches has been under-researched (Schulze, 2011:800; Van Biljon & De Villiers, 2013:1444). Only minimal evidence-based information is available to guide supervision transformation in ODeL (Heeralal, 2015:88). There has been little systematic research into supervision approaches that may provide effective support to postgraduate students (Agné & Mörkenstam, 2018:669). The focus of this study was therefore to explore an alternative approach to supervision that may be relevant to an ODeL context and to propose a framework that may be used to provide support and guidance to students embarking on research projects through a distance education mode of delivery.

[1] Detail on the student profile of the ODeL institution was provided in Section 1.7.3.

1.2 Problem formulation

Postgraduate supervision is a challenge at universities worldwide, even under favourable conditions, where full-time students are in direct contact with their supervisors (Manyike, 2017:1). Pressures related to massification, resource limitations, policy directives and global competitiveness are straining the traditional 'student-supervisor relationship' and require that supervisors revise their supervisory pedagogy (Grant, 2018:29). This is due to the rapid increase in student numbers, varying levels in students' research skills, the physical distance between students and supervisors and changing economic and employment circumstances (McCallin & Nayar, 2012:63). Students from various socio-cultural backgrounds enrolling for postgraduate degrees are putting additional pressure on supervisors to manage the complexities of research knowledge creation (Wichester-Seetoo, Homewood, Thogersen, Jacenyik-Trawoger, Manathunga, Reid & Holbrook, 2013:610). These influences have placed a greater emphasis on the use of supervision approaches that can offer sufficient support and guidance to postgraduate students (Van Rensburg, Mayer & Roets, 2016; Manyike, 2017:2).

A major obstacle is the fact that underprepared students with diverse needs in an ODeL environment are still supervised through the traditional apprenticeship approach of one supervisor (and in some cases also a co-supervisor) per student (Van Biljon & De Villiers, 2013:1443). The result of this arrangement is a lack of support, guidance, interaction and communication, which are imperative to support distance education postgraduate students to complete their research (Govender & Dhunpath, 2011:88). The consequences of an unwillingness to explore alternative supervision approaches in a distance education context are far-reaching, when you compare the success rate of postgraduate students at an ODeL university with those of other universities in South Africa (Schulze, 2011:784). The completion rate at an ODeL university is about 20% lower than face-to-face universities in this country, with high dropout rates and extended completion times (Department of Higher Education and Training, 2018:12). Sustainable learning environments that demystify the challenge of conducting research in a context where student and supervisor are geographically separated and possibly from different cultural backgrounds necessitate a revision to align with postgraduate students' expectations (Nkoane, 2014:697).

Heeralal (2015:90) proposes that a pedagogy *for* supervision, instead of a pedagogy *of* supervision be applied. This means that the work of a supervisor should extend beyond traditional roles to cater for the needs of students, be flexible based on the supervision situation and to take cognisance of the transformation required to improve research outputs. Not only are supervisors responsible for guiding research practices, but also to develop and empower students to become active members of the research community (Wisker, Robinson & Shacham, 2007:301). Supervision approaches and practices in an ODeL context are to be adapted to cater for the tension between producing quality research outputs and increasing throughput rates to meet market demands (McCallin & Nayar, 2012:63). A concerted effort is required to consciously revise supervision approaches to become more structured and team-supported endeavours.

A possible solution is the use of a cohort approach to supervision, due to its structured nature and its potential to promote student engagement in the research process (De Lange et al., 2011:17; Samuel & Vithal, 2011:80; Van Biljon et al., 2014:166). A cohort supervision approach refers to a structured programme, where supervisors and students engage in meaningful academic activities over a set period of time through direct contact. Although the cohort supervision approach is suitable for residential higher education institutions, the execution of this approach in an ODeL environment requires more consideration (Govender & Dhunpath, 2011:89). Students, especially postgraduate students, may not be able to partake in regular contact sessions, which are imperative to employ a cohort supervision approach successfully (De Lange et al., 2011:17). Exploring the application of a cohort supervision approach is important, since additional research on the use of cohort supervision is required to propose a conceptual grounding for the use of the approach in an ODeL context (Van Biljon & De Villiers, 2013:1459).

1.3 Purpose of the study, research objectives and questions

Within the context of the study, the intent was to explore the cohort supervision approach and the development of a conceptual framework, as an alternative supervision approach for postgraduate students at an ODeL higher education institution. Ngulube (2020:28) states that a conceptual framework is a researcher's

map of key concepts to be investigated. It provides the scope of important variables to research or specifies what information is to be collected and analysed. Jabareen (2009:51) explains that a conceptual framework provides key factors, constructs or variables and assumes relationships among them. Important information, as described under the problem formulation section, requires a clear identification of the key research question, sub-questions and objectives (Creswell, 2014:153). Related to this research, the main research question was:

> *How can the cohort supervision approach at postgraduate level be conceptualised as an alternative supervision pedagogy within an ODeL context?*

From this main question, key objectives and sub-research questions were derived, as identified in the Table 1.1 dashboard on the following page. It is important to note that, as per the Stellenbosch University Faculty of Education Calendar (2018:81), this thesis encompassed an alternative dissertation structure containing two journal articles that flow from a single argument. Location within the study, where each of the objectives and research questions received attention, is also provided in the dashboard. In addition, the dashboard provides detail on the data collection tools utilised during the research. These data collection tools and a motivation for their selection can be viewed in Section 1.10.

Table 1.1: Research dashboard

Research objectives	Research sub-questions	Thesis structure	Data collection tool
• To identify the characteristics of a cohort supervision approach that is to be considered in an ODeL context.	• What constitutes a cohort supervision approach that distinguishes it from other supervision approaches?	Chapter 1	Literature review
• To determine the structure required to conceptualise a cohort supervision framework in an ODeL context,	• How can the cohort supervision framework be conceptualised as an alternative supervision pedagogy in an ODeL context?	Study 1	Literature review
• To propose a cohort supervision conceptual framework applicable to postgraduate students at an ODeL university.	• What are the key dynamics to consider in the application of the cohort supervision approach at postgraduate level at an ODeL university?	Study 2	Literature review Interviews

The topic was explored through a background chapter that aimed to contextualise the research methodology. Two subsequent studies (articles) presented in chapters two and three explored the development of the framework and its conceptualisation in more detail. Chapter four finalised the research by offering a summary of the key research findings as well as implications for future research. To limit duplication, a consolidated reference list was provided at the end of the thesis, referring to all sources used during the execution of the research.

1.4 Significance and Motivation

Research is important within an educational context to add to the body of knowledge related to the discipline, improve educational practices and inform policy debates (Creswell, 2014:17). This research sets out to contribute to the body of knowledge about supervision pedagogy in an ODeL environment, an area that is under-researched in South Africa and globally. It does so by proposing a conceptual framework that may inform the use of the cohort supervision approach in an ODeL

environment. Reporting on a framework that can be followed to engage in alternate supervision practices such as cohort supervision, is necessary to provide an opportunity for supervisors to scrutinise and reflect on their supervision practices (De Lange et al., 2011:15). Reporting is also important as a tool to share experiences and strengthen communities of practice among supervisors, between supervisors and students, as well as within the academic community. The thesis thus aimed to provide insight into how cohort supervision may be used as an alternative supervision approach in an ODeL context.

1.5 Delineation

ODeL higher education institutions are multi-dimensional, using e-learning to improve distance education learning and teaching methods (Manyike, 2017:2). Topics related to comparisons between supervision approaches, student characteristics and needs, as well as supervision roles and responsibilities, were not included as part of the outputs for this research. Where relevant, sources that have conducted such research, were used to provide the necessary information. In relation to research participants, information-oriented and snowball sampling methods were applied to identify participants that had cohort supervision experience and/or cohort supervision experience in a distance education environment.

Although the focus of the research was on an ODeL environment, the findings of the research may be equally valuable to supervisors who struggle to provide supervision support to their students in other types of distance education. The findings may relate to residential institutions that are offering postgraduate degrees via a distance mode. As the purpose of the research was not to apply the cohort supervision approach to any context, generalisations about a specific discipline or qualification type were not possible, nor was it the purpose of the research. Linked to this, the purpose was also not to explore in depth and detail the influence of Africanisation or decolonisation on supervision practices. Though the views of Manathunga (2009:165) were acknowledged in terms of the need to consider the influence of cultural exchanges during new knowledge creation as part of the research and supervision process, limited attention was paid to this component. Rather, the purpose was to propose a

conceptual cohort supervision framework that may be adapted to various supervision environments.

1.6 Assumptions and Limitations

Assumptions in research are aspects outside the control of the researcher, that may impact on the research (Simon, 2011). The first assumption was about the importance of supervision. Exploring the need and importance of a conceptual framework for cohort supervision was founded on the premise that supervision is a key function to promote postgraduate throughput rates. This assumption was based on research by Lee (2008:267), Bitzer (2011:435) Winchester-Seeto et al. (2013:611) and Agné and Mörkenstram (2018:669), who state that supervision is a key practice at universities worldwide and often the determining factor in increasing postgraduate throughput rates. As supervision may be based on various approaches, exploring the use of cohort supervision became relevant.

The second assumption was related to the ODeL institution. Because this is a unique institution, the assumption was made that the mode of delivery related to this institution is problematic to promote effective supervision practices. The mode is based on temporal, spatial and communication distances between students and supervisors (Manyike, 2017:1). This creates challenges associated with supervision, such as lack of support, guidance, interaction and communication (De Lange et al., 2011:19).

Another assumption was my paradigmatic viewpoint. Like the views described by du Plooy-Cilliers (2014:29), it was my view that within an interpretivist context, reality is socially constructed and depends on the meaning that people ascribe to their own experiences and engagements with others. As a supervisor of postgraduate students at an ODeL institution, I experienced supervision problems such as increased student numbers and high attrition rates. Under these circumstances, the apprenticeship supervision approach is no longer adequate to provide quality guidance to postgraduate students from a variety of educational and socio-economic backgrounds. My experiences from within the educational system have highlighted the need for further investigation of alternative supervision practices.

In terms of the participants that were involved in the research (Study 2), I assumed that honest and truthful opinions would be obtained from them about cohort supervision as a conceptual approach. To ensure that this assumption was plausible, no questions of a sensitive nature were asked. I paid attention to key ethical principles related to beneficence, non-maleficence, autonomy, confidentiality and care (Denicolo & Bekker, 2011:11). This was part of the ethical requirements as prescribed by Stellenbosch University (2016:4).

Related to the previous assumption, I selected participants with some experience in supervising students within a cohort approach, but not limited to a distance education context. Identifying participants with only ODeL experiences could have influenced the findings of the study negatively. By following an interpretive paradigm, where individuals construct their own reality about experiences of and interactions with others, I was cognisant of possible bias of negative experiences of cohort supervision in general, and at an ODeL institution in particular, towards the proposed conceptual framework.

Manathunga (2014:7) emphasises the need for researchers to be aware of the influence of their personal viewpoints during the execution of research. The author expresses the view that researchers are drawn to particular issues, theories and ideas based on the range of personal and / or intellectual issues that they grapple with. As a South African female, I am aware of my European background and schooling and have been highly sensitive to acknowledge and reflect on the contamination that these lenses might have brought about while conducting this research. However, having lived most of my life in a large, cosmopolitan city, I have been extensively exposed to other cultures and embrace values and principles from these cultures in my conduct with others. This relates to the views of Holmes, Manathunga, Potter and Wuetherick (2012:198) that consciousness of one's own viewpoints may support the identification of a 'middle power', where the focus during supervision may be on creativity and credibility of work by embracing and being cognisant of cultural differences.

In terms of the limitations of the research, Simon (2011) suggests that potential weaknesses of a research investigation be identified. Such a limitation was that neither the use of other alternative supervision practices were explored, nor were

comparisons drawn between different supervision practices, since there are various such studies available (Conrad, 2003; Corner, Löfstrom & Pyhältö, 2017; Swarts, 2017). Findings from applicable existing studies were incorporated to cover this limitation. The study also did not focus on the needs and interests of postgraduate students. Like the previous limitation, extensive research has been conducted on this topic (Conrad, 2003; Santicola & Morris, 2013; Mitchell, 2014). Similarly, information from these and other related sources were incorporated into the study, where applicable, to cover this limitation.

A further limitation is the fact that the study focused on postgraduate supervision in general and did not distinguish between different National Qualification Framework (NQF) degree levels in the postgraduate context, as prescribed by the Council on Higher Education (2014). The research also did not focus on a specific discipline but proposed a generic cohort supervision framework that may be adapted, based on unique programme outcomes and discipline needs. The motivation not to differentiate was to propose a conceptual cohort supervision framework that could be applied to all postgraduate programmes, irrespective of whether they are research or coursework based. The assumption was not that there is a ‘one-size-fits-all’ cohort supervision approach, but rather that key components of a framework may be identified and adapted, based on the unique needs of a specific programme and discipline.

In addition, time and financial resources further limited the study. Since this research was part of a structured master’s degree and comprised 50% of its composition, the scope and depth of the study was limited in nature. For this reason, the emphasis of the research was on developing a conceptual framework for a cohort supervision approach. However, this did not impede the quality of the data, as various technology tools were used to engage with participants from across the globe.

1.7 Cohort supervision and an ODeL environment

The first research objective that was explored in this study was to identify the characteristics of a cohort supervision approach that may be considered in an ODeL context. Ravitch and Riggan (2017:10) argue that these characteristics are important for the development of a conceptual framework. The authors state that a conceptual

framework relates to an argument about why the topic under discussion matters, and why the means proposed to study it are appropriate and rigorous (Ibid, 2017:5). Grant and Osanloo (2014:17) refer to a conceptual framework as concepts, assumptions and beliefs that support and guide the research. This is in line with the views of Jabareen (2009:49) that a conceptual framework provides a map of what matters to be investigated, specifically related to the scope of important variables and information to be collected and analysed. Differentiated from a theoretical framework, Ngulube (2020:29) explains that where a theoretical framework is generally based on one overarching theory that utilises all aspects of that theory, a conceptual framework focuses on the use of aspects of one or more theories, where aspects of a theory or theories inclusive of concepts from the literature, personal experience and knowledge of context and models, are integrated in the creation of a conceptual framework. In addition, Ngulube (2018:3) explains that even though theories and models are not synonymous, they do overlap and share elements of meaning. Whereas a theory predicts or explains a phenomenon, a model merely describes a phenomenon. A model is used to depict or illustrate a theory. Theorists therefore use models of a means to view reality, by outlining characteristics that are relevant to the problem being investigated, so as to operationalise the nature of relationships among concepts. Focusing on existing theories, models, literature, personal experiences and context knowledge, the conceptual framework developed for this research comprised of key information on what constitutes a cohort supervision approach and what distinguishes it from other approaches, what the meaning of ODeL is, and what the relevance of cohort supervision in an ODeL environment is.

1.7.1 Cohort supervision

Knowledge about what constitutes a cohort supervision approach is necessary to ensure the demarcation of the study. Jabareen (2009:50) describes this as conceptualising the concept; implying that the term ‘cohort supervision’ may have varied constructs that define its composition. Determining how authors define cohort supervision and to approach it in relation to other supervision approaches are necessary to identify the construct of the cohort supervision framework. For example, Backhouse (2010) purports that four patterns of supervision approaches can be identified within the South African context. These approaches include individualist,

network, loose cohort, and small teams approaches. The classification of these approaches is based on different levels of support and dependency between supervisors and students. More variants of supervision approaches may be developed, depending on the relationship between students, peers, supervisors and other experts (Van Biljon & De Villiers, 2013:1445). For example, one-on-one supervision refers to the traditional apprenticeship approach, whilst a many-to-one approach refers to two or more supervisors supervising one student. The one-to-many relationship relates to one supervisor supervising a group of students, and the many-to-many relationships, focus on the cohort supervision approach. Swarts (2017:231) suggests that blended learning can be added as an alternative supervision approach.

The most commonly known supervision approach is the one-on-one or apprenticeship approach. This approach is based on a dyadic relationship between a student and supervisor (McCallin & Nayar, 2012:67). The strength of the apprenticeship approach is that a student receives highly individualised attention, that may result in personal growth (Loureiro, Huet, Baptista & Casanova, 2010:153). In this approach, the supervisor takes the role of the mentor; to provide encouragement, support and guidance to stimulate the student's acquisition of knowledge (Burnett, 1999:46). Due to ever-increasing student numbers, this approach has been increasingly criticised because it relies heavily on one-on-one interaction (Bertone & Green, 2018:24). Evidence of power struggles, lack of individual feedback and support within the apprenticeship approach further limits the appropriateness of this approach in the current higher education context (Corner et al., 2017:93). It is also not aligned to postgraduate students' growing need for engagement, since the relationship between supervisor and student is based on dependency, which can stifle the academic growth of a student (De Lange et al., 2011:18). Despite the disadvantages of the apprenticeship approach, it is still the most widely used supervision approach (Agné & Mörkenstam, 2018:670). This may be because of its familiarity or the sense of individual attention that is offered by it (McCallin & Nayar, 2012:70). However, the authors question how long this approach can be sustained, given the high influx of postgraduate students.

Group supervision approaches, whether many-to-one or one-to-many aim to move away from the traditional supervision approach by providing more opportunities for

engagement. Such group supervision refers to a mixed approach that allows for multiple supervisor-student relationships (McCallin & Nayar, 2012:70). Many of these approaches (such as joint supervision) are well-known, and well-researched (Samara, 2006:116). Joint supervision (many-to-one) may comprise of more than one supervisor per student or supervision via an advisory or supervisory committee, where one candidate is supervised by a committee of three to five academic staff members (De Lange et al., 2011:17). Many-to-one supervision can add value where members contribute their experiences, knowledge and skills towards the research project of a student (Van Biljon & De Villiers, 2013:1445). A criticism of this type of supervision is that although the student may benefit from the views and input of various experts, an unbalanced power relationship exists that may influence the development of the postgraduate student negatively (Loureiro et al., 2010:153). The view that an unbalanced power relationship exists between supervisors and students are also emphasised by Manathunga (2007:208). The issue of power remains an integral part of any form of supervision. An egalitarian agenda is required to refocus roles and responsibilities within the supervision process, to encourage equality between supervisors and students, with autonomy and rational thinking influencing relations, rather than paternalistic impulses. Conflict and power struggles between supervisors alienate students since feedback may be perceived as inconsistent, contradictory and confusing. Such a supervision approach stifles progress and negatively affects the motivation of the student; leading to low throughput and high attrition rates (Van Biljon & De Villiers, 2013:1447).

As an alternative, a number of authors suggest that group supervision, whether one-to-many or many-to-many relationships, should be followed (Samara, 2006:116; Loureiro et al., 2010:153; Wichmann-Hansen, Thomsen & Nordentoft, 2015:19). The authors surmise that group supervision can cater for engagement, collaboration, interaction, and support needed by postgraduate students. Group supervision can assist in overcoming isolation and foster intellectual independence through social and emotional support (Choy, Delahaye & Saggers, 2015:21; Swarts, 2017:231). The group approach to supervision is usually unstructured and groups disperse once they have achieved their goal (De Lange et al., 2011:17).

Flowing from the group supervision approach, the hybrid or blended approach makes use of new technologies to encourage engagement. It involves communities of people who are intellectually, socially and geographically dispersed, but who work collaboratively through various technological tools (McCallin & Nayar, 2012:67). This approach to supervision is effective, as it strengthens the relationship between the students and supervisor(s) by providing opportunities for engagement, feedback, discussion and support. As with group supervision, the blended approach may be loosely structured to fulfil a function. For example, students, supervisors and experts may engage in an online session about a topic that students are struggling with. Once students have obtained the necessary knowledge, there may be no further need for the group to engage (Choy et al., 2015:20). The use of this supervision approach requires careful planning, to ensure that all relevant parties can participate in group engagements. Access to technology and technological tools are essential for this supervision approach to be successfully executed (Swarts, 2017:231).

Although the focus of the latter of the supervision approaches includes more individuals than only the supervisor and student, a concerted effort is required to consciously transform supervision practices into an approach that follows a more structured and team-supported effort. For this reason, the cohort approach to supervision is proposed as a workable tool (De Lange et al., 2011:17; Samuel & Vithal, 2011:80). The question may be asked as to how cohort supervision differs from one-to-many or many-to-many approaches. The cohort approach promotes collaborative and interactive learning through the utilisation of a structured programme (Govender & Dhunpath, 2011:88). The differentiation can be based on the fact that cohorts have defined, long-term membership; a shared common goal that can best be achieved through scaffolded learning, when the members support each other academically and emotionally; follow a highly structured and intense meeting schedule; and form a network of synergistic learning relationships over time, which is shared among group members (Choy et al., 2015:21). This is supported by the view that cohort supervision refers to a community of students, supervisors and experts where students make a commitment, not only to their own studies, but also to each other (Samuel & Vithal, 2011:84). Furthermore, cohort supervision can be perceived as a form of collective supervision that consists of students who are expected to follow a similar plan of development and who are supervised by the same faculty members throughout the

learning experience (Agné & Mörkenstam, 2018:669). Cohort supervision also contains a strong mentoring component, where the emphasis is on supporting those involved in the cohort to evolve into independent thinkers through collaboration and interaction as 'collegial equals' (Manathunga, 2007:209). The emphasis is on making provision for the exploration of varied research cultures, providing emotional support and assisting students to achieve their research goals.

In as much as cohort supervision can be utilised to support and encourage students to complete their research outputs, this supervision approach contains areas of concern to explore. Govender and Dhunpath (2013:242) explain that one of the key considerations is to ensure that feedback from various supervisors support instead of confuse students. Conflicting and contradictory advice is to be settled in a manner where participants observe academic argumentation in a positive manner. Unresolved conflict between supervisors may impact negatively on student progression and lead to added pressure on teaching and learning processes (Govender & Dhunpath, 2013:223). Dialogue needs careful management, so that the views of some individuals do not overpower and negatively influence other members of the cohort. Establishing and maintaining a research culture where the voice of all members of the cohort enjoy equal importance is a sensitive and complex issue (Wisker et al., 2007:317). There is always a danger that the cohort can be dominated by a few that will prevent all participants from developing as researchers. A concerted effort is required from the supervisors to use a series of dialogue forums or collaborative discussions to provide each member of the cohort with the opportunity to actively engage in the process (Harrison & Grant, 2015:564). Cohort supervision may also not be suitable for every student. McKenna (2016:463) explains that some students prefer to work outside group structures, by forming a personal relationship with the supervisor and sometimes, co-supervisor only. Such preferences should be catered for.

Learning within the cohort is based on the theory of constructivist learning, where learning is seen as an active process to promote understanding, based on individual and socially shared experiences (Van Biljon et al., 2014:167). Cohort supervision enables students to progress through their studies as an interdependent collective that are, so that all members of the group can benefit simultaneously from the learning experience (Santicola & Morris, 2013:253). This supports the view that engagement

in the cohort enables group-work, the sharing of ideas and support development (Wisker et al., 2007:309). Specifically, cohort supervision helps participants of that group to remain motivated, maintain momentum, comment on work in progress, and receive critique on their research that may support progression.

Linked to the above descriptions, the following definition of cohort supervision as it relates to this study, is presented:

> *Cohort supervision refers to a supervision approach wherein a community of students and academics participate towards the achievement of a similar goal. Cohort supervision is founded on the principles of scaffolded learning, collaboration, support and interaction within a structured programme offered via various modes of engagement, to increase the research outputs.*

Within a cohort supervision construct the emphasis is on support, since students are at the same stage of their research journey and are grappling with similar issues. To promote progression, the aim of cohort supervision is to encourage peer learning and promote the provision of regular feedback from peers and supervisors; allowing students to learn from experiences and the viewpoints of others (Agné & Mörkenstam, 2018:669).

The structure provided via cohort supervision may stimulate creativity and make it easier for students to engage; thereby reducing academic isolation (Samara, 2006:1116). Certain actions are to be executed in specific timeframes. Formal class discussions, presentations and workshops may be used to encourage engagement, support and critique (De Lange et al., 2011:17; Govender & Dhunpath, 2013:219; Van Biljon & De Villiers, 2013:1445; Choy et al., 2015:21). The mode of engagement may vary from face-to-face to a blended approach, where technology is used to encourage engagement. The decision to employ technology as part of the cohort supervision approach is dependent on the institutional mode of delivery, as well as participants' needs (McCallin & Nayar, 2012:67).

Engagement with peers, supervisors and experts further promotes community engagement and the enculturation of students into professional communities of practice, where trust relationships are built as support for the learning process (Swarts, 2017:232). This is different from other supervision approaches because participation in cohort supervision is dependent on the development of 'soft' skills, such as communication, negotiation and emotional intelligence to encourage the creation of a constructivist learning environment (Van Biljon et al., 2014:167). Open and honest dialogue is required based on mutual respect for and sensitivity towards others (Wisker et al., 2007:304). Developing trusting relations may create opportunities for students to collaborate in problem-solving activities, engage in critique and to take risks to improve the quality of their research outputs.

1.7.2 Open Distance e-Learning (ODeL)

To explore the use of a cohort supervision approach in an ODeL context, it is imperative to understand what constitutes ODeL. It is multi-dimensional, aimed at promoting the objectives of online learning, to overcome distance, temporal and spatial barriers (Manyike, 2017:2). To fully understand the context of offering postgraduate supervision in an ODeL environment, the terms 'openness', 'distance learning' and 'e-learning' compel clarification. In terms of 'openness', Bordeau (2014) and Hug (2016:287) explain that finding a common understanding of openness in education is a complex task, as it carries various meanings. A meaning that may be relevant to supervision practices in an ODeL context, is to provide opportunities for engagement with others in postgraduate education. This openness is important to provide students from diverse educational and socio-economic backgrounds with the opportunity to engage in further and lifelong learning (Manyike, 2017:2). Openness also relate to sharing information, experiences and critique through digital media (Hug, 2016:287).

'Distance learning' refers to a mode of educational delivery where there is temporal, spatial, economic, social, educational and communication distances between students and supervisors (Unisa Open Distance Learning Policy, 2008:2; Van Biljon et al., 2014:166; Heeralal, 2015:96). Briefly defined, 'e-learning' is the use of technology in the learning and teaching environment to develop independent, self-directed and reflective students (Van Rooy & Madiope, 2012:159). E-learning brings a new

dimension to the concept of open learning to overcome traditional barriers to education. The possibilities of unlimited access to information and global communication offered via e-learning, provide students with opportunities to control and direct their own learning. To promote e-learning, the ODeL framework is founded on the premise that student learning can be optimally supported by modern electronic technologies, where multiple teaching and learning strategies and a range of technologies are used, combined with the deployment of physical and virtual resources, to encourage active engagement with students (Heeralal, 2015:88). Chetty (2014) is of the opinion that ODeL supervision is based on the premise of creating lifelong learning opportunities by using modern technologies. Such technologies emphasise the e-learning component, where engagement and active learning is supported through synchronous and asynchronous online engagement. In an ODeL institution, the emphasis is on using technology to bridge temporal, geographical, economic and communication barriers, that will enable a fluid open learning environment towards lifelong learning (Mbatha & Naidoo, 2010:65).

Such technologies may include ones with limited interactive functionalities, such as DVDs, satellite broadcasting, online distribution of content and information via learning management systems, the use of multimedia with interactive possibilities such as video conferencing, or other synchronous and asynchronous communication applications available via the web. Supervisors may provide guidance on the use of technology to encourage active engagement and participation in the learning process.

The selection of technologies is determined by cognitive, affective and systemic structures (Fynn & Janse van Vuuren, 2017:188). In terms of cognitive support, technology is utilised to optimise access to resources, such as literature and formal learner support services related to tutorial classes and engagement with supervisors and peers. Affective support refers to the improvement of the study environment to build commitment and self-esteem. Affective support further includes social engagement required to stimulate learning and to provide emotional support. Systemic support is concerned with the technology infrastructure in terms of accessibility and usability. Systemic support is required to enable students to manage technology tools to promote learning, engagement and support.

1.7.3 Cohort supervision in an ODeL context

A brief overview of distance education in South Africa is necessary to understand the context of ODeL and cohort supervision. The Council on Higher Education (2004:8) states that distance education in South Africa began in 1946 with the declaration of the University of South Africa as one of the world's first correspondence universities. Through the merger with various other distance education institutions in 2004, the University of South Africa became the largest comprehensive distance education provider in South Africa, offering a full range of degrees across general, vocational and professional fields (Glennie, 2007:98). From 1993, traditional face-to-face universities also embarked on distance education in line with the 1992 Educational Renewal Strategy. However, the National Commission on Higher Education report (1996:122) called for a single dedicated education institution that offers high quality distance education programmes. Because of the poor-quality distance education programmes offered by face-to-face institutions, the Department of Education placed a blanket moratorium on distance education programmes at face-to-face institutions (Council on Higher Education, 2004:21). Due to the growing need for educational opportunities in the country, the Council on Higher Education recommended in its policy document Towards a New Higher Education Landscape (Council on Higher Education, 2000:44) that face-to-face institutions be allowed to offer distance education programmes, on condition that appropriate quality assurance mechanisms be put in place.

Limitations in the offering of distance education qualifications at face-to-face higher education institutions have contributed to the growth of the University of South Africa as the main provider of distance education programmes. To open opportunities for more individuals to enter the sphere of higher education, the 1995 White Paper on Education and Training encourages open learning, which focuses on flexibility of learning, removal of barriers to access learning, provision of learner support and recognition of prior learning (Department of Education, 1995:280). To ensure openness in education, all unnecessary barriers to learning need to be removed(Council on Higher Education, 2014:5). A student-centred approach is to be followed, with flexibility of learning provision and learning programmes that meet expectations of students and support them to succeed in their academic endeavours.

The notion of openness has been embraced by the University of South Arica. Due to its rapidly growing student numbers[2], the University has explored alternative ways of offering distance education programmes that support the notion of 'openness'. The University Council therefore adopted a new Open Distance e-Learning (ODeL) model in 2013, which includes the statement that technology and technology-mediated communication could be utilised fully to offer distance education programmes (Van Niekerk & Schmidt, 2016:199). The ODeL model uses technology as a tool to enhance open educational practices that promote a more structured environment for engagement with students.

Approximately 337 836 students were enrolled at an ODeL institution in 2016[3] (UNISA, 2018). Table 1.2 provides a distribution of students at postgraduate level.

Table 1.2: Distribution of postgraduate students at an ODeL institution

Degree level	South African Students	Students from African and other counties	Total
Honours and postgraduate diplomas (NQF Level 8)[4]	33 945	4541	38 486
Master's degrees (NQF Level 9)	4016	1484	5500
Doctoral degrees (NQF Level 10)	1002	1195	2197

(UNISA, 2018)

Despite the large number of students enrolled for postgraduate degrees, the completion rate of postgraduate students at the ODeL university is approximately 20% lower than at face-to-face higher education institutions in South Africa (Manyike, 2017:2). The institution is experiencing increasing dropout and attrition rates with lower

[2] Glennie (2007:98) indicates that in 2004, the institution enrolled approximately 205 000 students. This number has grown to 316 349 in 2009 and 337 836 in 2016 (Department of Higher Education and Training, 2018:12).

[3] 2016 numbers and percentages from the ODeL institution's website are used so that a comparison with the Department of Higher Education and Training information can be made. The Department of Higher Education and Training (2018) document refers to numbers and percentages for 2016 and is, within the context of this research, the most updated source of information on enrollments, throughput and dropout rates at higher education institutions in South Africa.

[4] National Qualifications Authority aligned to the National Qualifications Framework Act 67 of 2008.

than average graduation rates. As per Table 1.3, the South African Department of Higher Education and Training (2018:113) reports the graduation rates in 2016 for the ODeL institution.

Table 1.3: Summary of graduation rates of an ODeL institution (South Africa) in 2016

Postgraduate degrees below master's level (%)	Master's degrees (%)	Doctoral degrees (%)
26%	19%	14%

(Department of Higher Education and Training, 2018:113)

In order to contribute to the growing need for qualified postgraduate students, in line with the National Development Plan 2030, the ODeL institution aims to increase its postgraduate throughput rate by at least 25% (Manyike, 2017:2). Students entering the postgraduate environment experience challenges such as poor language proficiencies, an increased need for individual support, and lack of access to the technology tools required to embrace the openness of ODeL (Letseka & Pitsoe, 2014:1943). Schulze (2011:784) explains that this puts a burden on supervisors at an ODeL institution to offer sufficient support to guide students to complete their research outputs.

The exploration of alternative supervision practices to cater for the complex educational environment in an ODeL institution is important. Whilst technology tools may provide opportunities for engagement, supervision practices in an ODeL institution require adaptation to provide a more structured approach, based on scaffolded learning, cooperative learning principles, collaboration and reflection to support students through the research process (Van Biljon & De Villiers, 2013:1447; Van Biljon et al., 2014:166; Heeralal, 2015:89). These recommendations align closely to the description of cohort supervision as proposed by Choy et al. (2015:21). Though the application of cohort supervision in an ODeL context is recommended, the question remains, *how can the cohort approach be conceptualised as an alternative supervision pedagogy*? Linked to this question, the purpose of this research was to explore components of a cohort supervision framework as it can be conceptualised in an ODeL environment.

1.8 Theories and models towards a conceptual framework

The focus of this section was to provide a theoretical and model underpinning towards a pedagogical approach to support the appropriateness and rigour of the research, based on the ideas of Ravitch and Riggan (2017:10) about the development of a conceptual framework. Smith (2019) explains that pedagogy refers to a way of being with others in an educational context. It relates to joining with them to bring about relationships, encourage their well-being and promote reflection and commitment towards knowledge creation and knowledge sharing. Creating an environment where supervisors can guide students towards building understanding, engaging in dialogue and encouraging interrelationships where learning can take place require an exploration of existing teaching and learning theories that may influence the pedagogue applicable to cohort supervision. Theories and models are important 'priori' to be used as an explanatory lens to interpret patterns of events (Shanks & Bekmamedova, 2013:174). Furthermore, theoretical and model exploration provides a context in which to explain and understand the findings of research (Ngulube, 2018:2). It provides direction, gives meaning to the research enterprise and assists in the identification of key findings. Williamson (2013:42) elaborates that theoretical and model construction does not only inform a literature analysis (and vice versa), but also plays a role in the selection and execution of a research methodology. This is supported by the view that a pedagogical framework based on existing theories and models provide a grounding base for the literature review and methods of analysis (Grant & Osanloo, 2014:13).

Theories and models are constructed as creations by people to understand social phenomena (Bezuidenhout, 2014:40). However, social phenomena can change as more evidence is gathered in different contexts. All theories and models are therefore subject to reformulation. Theories are closely related to models. Although the two terms are not synonymous, according to Ngulube (2018:3), they do overlap and share elements of meaning. Where theories are used to predict or explain a phenomenon, a model merely describes a phenomenon through outlining characteristics that are relevant to the problem being investigated. Models are therefore used to operationalise the nature of relationships among concepts. Within the context of education, models refer to teaching approaches and student-supervisor relationships

that inform educational theory, personal learning styles and practical applications (Cuenca, 2010:15). Through pedagogical model construction, supervisors stand in a pedagogical relation to students, so as to support them in their learning and research endeavours. Xu, Chiu and Ye (2019:295) surmise that models are linked to how supervisors guide and assist students through their research endeavours. It encompasses components related to teaching methods used to transfer information, the ability of supervisors to manage the learning environment to the benefit of all students and in an online or blended context, the ability to use technologies effectively not only to transfer information but also to stimulate learning. Models require of supervisors to bring 'place' and people together through the application of knowledgeable actions to promote learning. Carvalho and Yeoman (2018:1122) explain that theories and models shape our thinking and become tools to construct our thinking which in turn influences the pedagogy that is followed during the execution of teaching and learning activities. However, our thinking is also influenced by our views of the world and therefore, what we value influences our interpretation of theories and models. This point is particularly important in this research, since no theory or model could be identified that describes the pedagogy of cohort supervision in an ODeL context.

Due to the various components applicable to cohort supervision as described in Section,1.7.1, various theories and models became relevant to this research. Within the context of the research, theories and models were used to identify concepts with which to create a conceptual framework that could be used as an approach to describe the relationship between components to be considered, in the design of a cohort supervision framework, as it may apply to an ODeL context. Concepts are ingredients of both theories and models and by creating a conceptual framework, the relationship between concepts that can be used to explain, describe, predict or control aspects of social reality could be framed. The meaning of a theoretical framework thus applies, where theory construction, inclusive of model identification involves the identification of parts or components of existing formal and / or topical concepts and their application (Ravitch & Riggan, 2017:11) to identify a conceptual framework wherein supervision practices could be adapted to support student learning, engagement and relationship-building in a distance education context.

Because the aim of this thesis was not to analyse various theories and models in depth, but rather to propose components that may be applicable to cohort supervision in an ODeL environment, a brief descriptive analysis of various theories and models and their possible relevance to cohort supervision, is presented in Table 1.4. Linked to the Holistic Approach to Technology Enhanced Learning map by Millwood (2020) theories pertaining to, for example, cooperative learning, situated learning, communities of practice and connectivism as an expansion of social constructivism, has been included as theoretical frameworks, each with its own key set of characteristics that can be drawn from when supporting students through the supervision process. This was coupled with models related to, for example, the Technological Pedagogical Content Knowledge (TPAC) and scaffolded learning models, to identify concepts related to developing a cohort supervision conceptual framework.

Table 1.4: Points of departure

Theory	Key constructs	Relevance to cohort supervision	Relevant sources
Communities of practice (as proposed by Lave and Wenger, 1991)	Communities of practice are built on the characteristics of a working team, where individuals can interact with one another. The process of becoming part of a community of practice is referred to as legitimate peripheral participation, where participation in discourse and practice, provides members with situated opportunities of learning which are mediated by others.	Communities of practice develop around people with similar issues and needs, where people come together to find value in the learning experience. Online engagement can make provision for engagement in a distance education context. Through peripheral participation, novice researchers can learn and expand their knowledge and experience through engagement with others.	Samara, (2006:117); Wisker et al. (2007:306); De Lange et al. (2011:19); Gumbo, (2019:95)
Community of inquiry theory (Garrison & Akyol, 2013)	The theory has at its core the key constructs related to cognitive, teaching, and social presence that work interchangeably to create a quality online educational experience. Making provision for online engagement and learning requires that a structured process in the achievement of learning goals be followed.	Cognitive development is required for enhanced critical thinking. This relates to the ability of students to engage with content in a critical reflective manner, where they are encouraged to question and analyse not just their own work, but also those of their peers. Towards making such decisions, the creation of a teaching presence where students can expand their methodological content knowledge, is required. In an online environment this requires the use of technology tools to create a purposeful and productive community of inquiry. Effective online supervision and engagement requires that supervisors and students display a social presence in the online environment. This is important as group engagement can play an important role in facilitating the understanding of benefits of different disciplinary practices. The importance of interdisciplinary thinking and practices towards promoting a knowledge society is emphasised as group engagement is likely to be more successful, as it can prompt useful discussions and critical thinking.	Garrison and Akyol, (2013:105)

Table 1.4: Points of departure continued

Connectivism (as per the views of Siemens, 2005)	Within the growing knowledge society, it is impossible for any person to know everything. Students need to learn where to find relevant information as and when needed, i.e. to form connections with content, persons or the environment. This forms the foundation for connectivism. Connectivism is based on the premise that knowledge is distributed across a network of connections. Being part of a network can assist students to see connections between fields, ideas and concepts.	Connectivism highlights the need for formal education to expand beyond one-on-one engagements. Learning occurs in communities, where collaboration with others on current ideas are regarded as key sources of information. Connectivism encourages students to become part of a learning community that may provide, and into which they may feed information and experiences.	Donnelly, (2013:359)
Cooperative learning (as per the views of Dewey, Lewin and Deutsch (Sharan, 2010))	In cooperative learning, small groups are used to engage in the learning experience. It is founded on the premise of positive interdependence and individual accountability through social interaction.	Facilitation is dependent on the creation of small groups that are motivated to work collaboratively towards solving similar problems.	McFarlane, (2010:158); Van Biljon et al. (2014:168)
Dialogism (linked to the dialogue theories of Bakhtin, 1920s)	Dialogism sees knowledge as emerging from interactions with others. It is concerned with the construction and transformation of understanding through the tension between various opinions and viewpoints. Within a group construct, dialogue is important, both on an interpersonal and sociocultural level. Feedback forms part of dialogism, where the focus is on active participation, to foster the growth and transformation of understanding towards enculturation.	Supervisory practices require dialogue between participants. The focus of dialogue is on improving research practices to achieve the goal set for the group. The aim is that dialogue should act as the co-construction of knowledge through interaction with a variety of individuals.	Dysthe, Samara and Westrheim, (2006:302); Moriarty, Danaher and Danaher, (2008:433)

Table 1.4: Points of departure continued

Peer-partnership inquiry (McMorland, Carroll, Copas and Pringle, 2003)	This theory encourages dialogue among students, supervisors and other experts in a reflexive mode, to enhance experiences and to build trusting relationships. Conversations between participants should be directed towards strengthening a culture of learning across multiple role-relationships. Relationships can briefly be distinguished as psychological-supervisor / student disclosure where the supervisor is a caring professional offering personal support; the traditional academic-supervisor / student relation founded on the apprenticeship mode; techno-scientific supervisor / student relation which is marked by close monitoring of the efforts of students who need schooling in the methods of research; and the neo-liberal supervisor / student relation where the student becomes autonomous with both parties having certified rights and responsibilities.	Various peer-partnership relationships form part of the cohort supervision approach. Depending on the knowledge level of students and their emancipation in academic prowess, these relationships may vary from supervisors taking on the role of techno-scientific guiders towards improved knowledge, to neo-literalism, where both supervisors and students execute mature responsibilities in the cohort approach. Especially in the latter part of the research process, the traditional academic supervisor / student relation may be adopted, where a student requires individual attention to conclude the research project. At all times, one of the supervisors, referred to by Wisker et al. (2007:309) as the 'guardian supervisor' (psychological supervisor), should be responsible for providing students with emotional support.	McMorland, Carroll, Copas and Pringle, (2003); Govender and Dhunpath, (2013:219)
Scaffolded learning (as proposed by Bruner (1978) and Vygotsky (1920s))	Scaffolded learning involves building on and progressively improving students' knowledge through engagement. Scaffolding requires dialogue, intersubjectivity where collaboration occurs and self-regulated learning. Through collaboration with more knowledgeable experts, students receive guidance to foster their ability to learn and extend their self-regulation in a learning activity.	Scaffolding may be achieved by determining current experience levels of students about the research process; providing feedback on main ideas or structure; working on different aspects of students' writing; providing feedback on areas of improvement; discussing improvements that are required; assessing improvements and identifying areas for further work; summarising and recording decisions and future tasks.	Tian, Todd and Darasawang, (n.d.); Van Biljon et al. (2014:168); Heeralal, (2015:92)

Table 1.4: Points of departure continued

Situated learning (as linked to the views of Lave and Wenger, 1991)	Situated learning suggests that learning takes place through the relationships between people and connections with prior knowledge. As with the community of practice theory, situated learning is associated with legitimate peripheral participation, which is the process of becoming a member of an academic community through the mastery of the knowledge required, to move from being a newcomer towards being a knowledgeable member of the community.	Supervision is the act of facilitating peripheral participation, so that students as novices can become fully embedded in the academic community. The aim is the promotion of knowledge participation. It requires of supervisors and students to become part of a community of knowledge sharing, where the emphasis is on developing knowledge, through connections and engagement, so that newcomers to the community can develop and grow their knowledge construct.	Dysthe et al. (2006:301); Wichmann-Hansen et al. (2015:19)
Social constructivism (Vygotsky (1920s))	Social constructivist learning refers to learning that is active, and by nature social and most likely occurs when students share ideas, inquire, and solve problems together. It provides opportunities for students to make sense of new knowledge and create meaning for themselves, based on individual and shared experiences. The process of teaching and learning is described as an emphasis on dialogue and co-construction of knowledge, through continuous interaction and communication among peers and more knowledgeable others.	This encourages an active process of learning through dialogue collaboration and engagement. Opportunities are required to obtain information from experts that may be relevant to own research and / or research experiences. Dialogue between participants (both students and supervisors) is required to solve problems at a specific stage of learning. Collaboration between participants is necessary to negotiate meanings, which guide students to become self-directed independent thinkers about their own research problems.	Tian, et al. (n.d.); De Beer and Mason, (2009:215); McFarlane, (2010:151)

Table 1.4: Points of departure continued

Sustainable learning environments (SuLE) (Mahlomaholo, 2014)	The foundation of this theory lies in recognising that good performance is a result of environmental factors and individual capabilities working in harmony. The SuLE integrates principles of both 'nature' and 'nurture' to propose that human potential can be developed and expanded through assimilation, accommodation and interaction within a supportive and developmental social environment. It supports the notion of Africanisation as socio-dialogism within epistemic community engagement, in conjunction with innate potentialities and opportunities to connect on various platforms (connectivism)and plays a significant role in creating sustainable learning environments.	In a SuLE, postgraduate supervision is reliant on active involvement in an interrogation of the world where research projects take place, so that individuals that form part of the group, assimilate information from each other, instead of having viewpoints imposed on them. The pedagogy is therefore reliant on engagement, where supervisors and postgraduate students consider how goals are attained through interactive learning spaces. Supervision practices aligned to support Africanisation should be based on respect for others and awareness of the role of the group in knowledge construction.	Mahlomaholo, (2014:176); Nkoane, (2014, 700)
TPACK (Technological Pedagogical Content Knowledge) (as per Mishra and Kohler (2006))	The TPACK model proposes the inclusion of content, pedagogy and technology towards the promotion of student learning. In brief, technological pedagogical content knowledge is reliant on a combination of three key components: content knowledge, pedagogical knowledge and technological knowledge. Content knowledge refers to the subject matter knowledge of the academic, to be learned by students. Such knowledge includes concepts, theories, ideas, organisational frameworks, established practices and approaches related to a specific discipline or module content. Pedagogical knowledge contains knowledge about how students engage, how interactions are planned and the strategies that will	This theory becomes important when technology is used in the execution of the cohort supervision approach. The use of content knowledge needs to remain sound and be offered via exposure to various resources, some of which can be engagements and discussions with experts. Pedagogical knowledge is important to structure the cohort supervision programme in such a way as to encourage groupwork, engagement, critique and feedback. Technology tools that promote learning, participation, social engagement and reflection are necessary. Technology tools that support the cohort supervision process and that will act as enablers to encourage active and engaged learning, are to be selected. Technology tools should be user-friendly, easy to	Gregory, Bannister-Tyrrell, Charteris & Nye, (2017:5); Gumbo, (2018:55); Gumbo, (2019:94)

Table 1.4: Points of departure continued

	spark interest and motivation. Technological knowledge refers to the ability of the supervisor to use various technology tools to promote active learning. It also involves understanding the impact of technology on supervision practices and the ability to make choices about technology tools to be used to promote learning and encourage engagement.	navigate and be available without members of the cohort supervision having to purchase additional software. Ideally, technology tools that are commonly used, such as Web 2.0 tools, e-mail, Skype and Microsoft Teams are to be considered.	
Typology of research supervision approach (as per the views of Lee (2008))	This theory is based on providing support to students to stimulate intellectual growth, enhance learning opportunities, encourage critical exchange or dialogue and independent scholarship. The theory consists of five key elements: functional, enculturation, critical thinking, emancipation and relationship development. Functional elements refer to transparency and consistency whereby development can be monitored. Enculturation requires students to engage in, but also comply with community formation. Supervision occurs through a community of research practices, where critical thinking is promoted to encourage students to reflect on and analyse their own work, as well as those of others. To do this, students need to develop confidence in their views and opinions, so that they will find their own voice. The power of emancipation lies in the development and growth of a student. Relationship development is central to the supervision process with emotional intelligence as the key component.	Applying the theory in a cohort supervision context requires that supervisors create an infrastructure for learning, knowledge sharing, dialogue and critique. The aim is to enhance opportunities for student support as required during the supervision process. In this typology the supervisor(s) occupy the position of expert(s), but through enculturation students can themselves be reconfigured as experts. Supervision thus calls for the active engagement of supervisors to create an environment that will promote learning, dialogue, critique and independent thinking. Relationship development is central to the supervision process, with emotional intelligence being a key construct. This requires opportunities to develop confidence so that emancipation can take place.	Lee, (2008:270); De Lange et al. (2011:19)

Based on the descriptions of the above theories \ models, four themes that may inform the pedagogy of cohort supervision in an ODeL context can be identified. The identification of these themes is important for components of existing theories and models to form the foundation from which all further knowledge may be constructed for a research study (Grant & Osanloo, 2014:12). Components of connected theories and models thus become the blueprint for the entire research inquiry. The themes include the promotion of learning, engagement, dialogue promotion and the use of technology to enhance learning which form the foundation for this research, as presented in Figure 1.1:

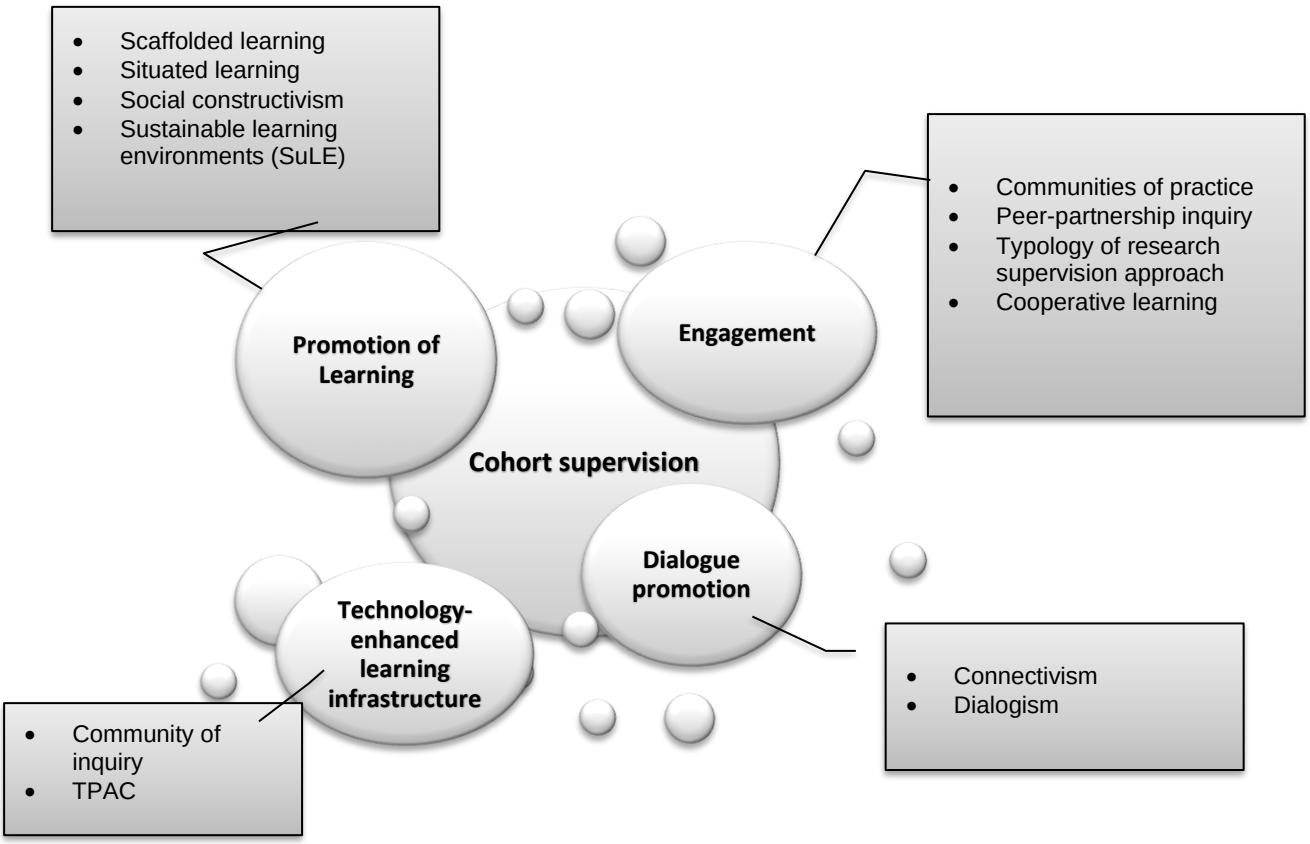

Figure 1.1: Summary of points of departure that inform cohort supervision research

Within the **promotion of learning construct**, when constructing learning opportunities in the cohort supervision programme, it is imperative to build on students' prior knowledge (linking to *situated learning*) and to provide opportunities for students to engage in the learning process (Santicola & Morris, 2013:254). Through the application of *social constructivism,* students can be encouraged to share ideas,

inquire about and solve problems as a group. For this reason, the creation of opportunities to present own work and to critique on the work of others becomes imperative, so that students can feel they are part of the problem-solving process in completing research successfully (Gregory et al., 2017:4). Through engagement, students can learn from the experiences of others, which will strengthen their ability to critically reflect on their own work, as well as the work of others (Govender & Dhunpath, 2013:219).

A *scaffolded approach* should be followed to build on and progressively improve students' knowledge through engagement. Scaffolding requires input from experts and peers that will guide them through the research process, from inception to proposal writing, data collection and analysis, as well as the final composition of the research output (Van Biljon et al., 2014:168). Supervisors act as the facilitators and mediators of peripheral participation (*situated learning*), so that students as newcomers can be guided to become fully embedded members of the academic community. Even though supervisors provide guidance at the beginning of the cohort supervision process, the emphasis remains on building student capacity to become self-determined learners. Opportunities need to be created where students can develop as independent creative thinkers that are able to adapt in a complex and changing world (Gregory et al., 2017:5). These are all components of the SuLE theory proposed by Mahlomaholo (2014:176) where the emphasis is on creating continuous, mutual and dynamic learning processes founded on collaboration and support. Towards developing an African learning environment, SuLE supports the notion that supervision practices require grounding in African communities and cultures that support ubuntunism and ukama – based on respect for others and taking into consideration the role of the group in knowledge construction. Throuh ukama, students can develop interdependent relations, not just with the supervisor, but also with the other members that are part of the cohort supervision group. The aim of such interdependence is to strengthen knowledge constructs and find solutions to key research problems. The principles related to ubuntu imply that members of the cohort treat one another with compassion, respect and embrace the notion of sharing, so that the learning experience may be a positive one for all involved (Jacobs, 2019:9).

Under the **engagement** theme, the emphasis is on enhancing interaction between supervisors, students and peers. Intellectual growth may be stimulated through the *typology of research supervision approach as proposed by* Lee (2008:270), which is closely linked to the *theory of peer-partnership inquiry*, aimed at encouraging engagement among students, supervisors and other experts (Govender & Dhunpath, 2013:219). The latter theory calls for a reflective mode to be included in the research process, implying that reflection forms a crucial part of the construct of cohort supervision. This, according to the *typology of research supervision approach*, is important to create opportunities where growth can be monitored (McMorland et al., 2003). Transparency and consistency in cohort supervision are required to provide opportunities for students to systematically work towards the achievement of their research goals.

The peer-partner inquiry further proposes the inclusion of a psychological supervisor, who is responsible for taking care of the emotional upheavals that a postgraduate student may experience. Winchester-Seeto et al (2013:611) explain that one of the factors that increase supervision complexity is the need of students for emotional support. Grant and McKinley (2011:378) refer to the need for emotional support as the imperative interaction required between supervisors and students towards knowledge production. In building relationships, students are to be given opportunities to grow from novice researchers to becoming experts; thereby sharing in the communities of research and / or practice (Govender & Dhunpath, 2013:219). Engagement in *communities of practice* provides students with the opportunities to present, critique and reflect on their own research, as well as the research of others (Grant, 2014:112). Methods used to encourage active participation and engagement need to motivate students to communicate and work towards emancipation, so that they are able to participate in an institutional and discipline-specific scholarly community (Botha, 2014:137). Within a cohort supervision programme, such communities of practice can either encompass the entire group, or smaller groups that come together because of their interest in a theme, theory or methodology. These communities of practice may include supervisors, students and more knowledgeable experts (Samara, 2006:117).

Within the **dialogue promotion** theme, *connectivism* and *dialogism* promote communication and engagement in cohort supervision. Students, supervisors and

where applicable, experts that are not part of the formal cohort structure, may exchange viewpoints and opinions (McFarlane, 2010:158). Successful social interaction requires that all participants take individual responsibility to engage in dialogue.

Online engagement can make provision for extensive dialogue through *connectivism*. Connectivism highlights the need for formal education to expand beyond face-to-face boundaries and includes a broader community from which students can learn. In the digital era where the emphasis is on globalisation, small institutional learning communities can form part of larger national and international learning communities (Donnelly, 2013:359). Through connectivism, such connections are encouraged, so that students can expand their learning opportunities and experiences beyond the limitations of collaborating only with a few supervisors and peers.

Making provision for connectivism, online dialogue, engagement and learning requires that a structured process be followed, to ensure that one component of the learning process receives as much attention as the others. The physical distance between students and supervisors in an ODeL environment can be overcome by the application of various technologies to create an environment of continuous engagement and support (De Beer & Mason, 2009:218; Picard, Wilkinson & Wirthensohn, 2011:957). Furthermore, virtual learning environments may offer opportunities to support learning and encourage greater interaction between postgraduates and their supervisors (Loureiro et al., 2010:155).

To provide a structure for including **technology** in the learning process, the community of inquiry theory proposes that key constructs such as cognitive, teaching and social presences are used to structure and inform an online learning environment, that may support engagement. The TPAC model is proposed to assist with the execution of the community of inquiry theory, so that content, learning opportunities and engagement opportunities through social interaction may be created through a simulated learning environment that stimulates learning and to extend the boundaries of their zone of proximal development. Content and inquiry engagement may include access to and discussion of academic sources but may also relate to engagements and discussions with experts (hence a link to connectivism). From a pedagogical point of view,

technology that encourages group work, engagement and opportunities for feedback is imperative to encourage engagement (Gregory et al., 2017:5). The use of user-friendly and easy to navigate technology tools is necessary to encourage connectivism and create an environment conducive to engaging in research activities.

From the brief discussion of the theoretical and model points of departure that are to be considered in the development of cohort supervision, it is evident that many theories and models can contribute to identify components to be included in the cohort supervision framework. As the framework develops, the theoretical and model points of departure and their respective components continue to form the foundation for the conceptualisation of a cohort supervision framework in an ODeL context.

1.9 Overview of the thesis

In line with the requirements for the completion of a master's thesis as described in the Stellenbosch University Faculty of Education Calendar (2018:81), this thesis encompassed an alternative dissertation structure, consisting of two journal articles synthesised in a single argument. Chapter one as the foundational chapter provided the necessary comprehensive detail that forms the basis for the composition of the journal articles.

Two separate studies were undertaken to provide answers to the two remaining sub-research questions. To answer the key research question on how cohort supervision at postgraduate level can be conceptualised as an alternative supervision pedagogy in an ODeL context, the sub-questions that informed each of the research studies were:

- Study 1: *How can the cohort supervision framework be conceptualised as an alternative supervision pedagogy in an ODeL context*?
- Study 2: *What are the key dynamics to consider in the application of cohort supervision at postgraduate level at an ODeL university?*

A thematic analysis was conducted to propose a framework for cohort supervision in an ODeL context in Study 1, whilst interviews were conducted to obtain information on the dynamics to consider in the application of cohort supervision at postgraduate level at an ODeL university in Study 2. To provide consistency in the composition of the two articles, and to increase publication possibilities, the submission guidelines of various accredited journals were considered. These journals included the *South African Journal of Higher Education, Open Learning: The Journal of Open, Distance and e-Learning, European Journal of Open Distance e-Learning, and the International Review of Research in Open and Distributed Learning*. The submission information per journal varies, but on average requires articles to be between 7000 and 9000 words in length with all illustrations, figures and tables included and clearly marked in the article text.

Study 1's, article focused on the development of a conceptual framework to inform a postgraduate cohort supervision approach in an ODeL environment. Following an interpretivist paradigm and bricolage design, a thematic analysis was conducted to propose a four-stage approach that may be followed to conceptualise cohort supervision in an ODeL context.

Study 2 aimed, through interviews with discipline and practitioner experts, to identify key dynamics to consider when applying cohort supervision to an ODeL university context. An interpretivist paradigm and bricolage design were again followed to provide for flexibility of interpretation and application. Interview data was coded and used for descriptions in the article.

The concluding chapter of the thesis provided additional information on how research questions were answered. Key implications of the research were considered in the context of theory, practice, policy and the proposed four-phase cohort supervision framework. The chapter concluded with suggestions for future research.

The references used to construct the above chapters are consolidated in a single reference list at the end of the thesis. The decision to provide one reference list was taken to reduce duplication and to improve the readability of the thesis.

1.10 Research methodology

Research methodology provides the 'blueprint' for how research is to be executed (Grant & Osanloo, 2014:12). The research methodology framework is founded on key information about the research paradigm, approach, method, data collection tools, population, sampling and data analysis, aimed at assisting the researcher to better understand the research questions. As this research consisted of two unique studies that culminated in proposed publishable research articles, the paradigm, approach and design of the research remained the same for both Study 1 and Study 2, so that a measure of coherence could be maintained. From the data collection onwards, the information related to Study 1 and Study 2 differed and clear detail on which data collection tool, population, sampling and data analysis methods had been used for the individual studies, were presented.

1.10.1 Research paradigm

Alghamdi and Li (2013:1) explain that the term research paradigm refers to a broad framework or perspective of a group of theorists who share ontological and epistemological assumptions. Du Plooy-Cilliers (2014:19) describes the term paradigm as a cluster of beliefs, related to the ontological and epistemological view of the researcher that dictates how research is conducted and how results are interpreted. The philosophy or general orientation about the world within which the research is being conducted may stem from one of several paradigms inclusive of positivism, post-positivism, interpretivism, critical realism and pragmatism, to name but a few. Paradigms, therefore, focus on the research tradition a researcher may adopt when studying a specific phenomenon relevant to her field. The paradigm provides the foundation to frame the study and to make sense of and acquire knowledge about the subject matter.

The methodology for the exploration of a cohort supervision framework related to this study was founded on the principles of interpretivism, with an inductive approach used to find answers to key research questions, based on recommendations by Van Biljon and De Villiers (2013:1443) and Van Biljon et al. (2014:166). Within interpretivism, reality is socially constructed with many intangible realities. Individuals develop

subjective meanings of their experiences and are constantly involved in interpreting their ever-changing worlds (Creswell, 2009:8).

Within the context of the interpretivist paradigm that informs the research, the theoretical and model points of departure provide an explanation of the how and why of a research project (Ngulube, 2010:53), whilst the models provide detail on the processes and / or procedures that encourage and support learning activities. Du Plooy-Cilliers (2014:37) states that points of departure (inclusive of theoretical frameworks and models) provide depth and detail as to how and why specific concepts are related and how it influences the teaching and learning process. From an ontological viewpoint, educational theories and pedagogical models form the academic foundation of every discipline and allow the transformation of information into knowledge. Theoretical and model points of departure provide an organised set of assumptions, concepts, principles and relations used to explain concepts that directly relate to cohort supervision. Linked to the paradigm, the theoretical and model points of departure that apply to the research, provide a metatheoretical position from which the research is conducted. The overall aim of the use of theoretical and model points of departure related to interpretivism, is to describe how people are engaged in a specific context of cohort supervision related to supervision, collaboration, cooperation, relationship building and knowledge construction. Theoretical and model points of departure within the context of interpretivism tell a story, so that the phenomenon of cohort supervision can be interpreted and described in more profundity.

The main point of following an interpretivistic philosophy is that I as the researcher am interested in the ways people interrelate; what they think and how their worlds are constructed. From an epistemological point of view, the construction of knowledge is a democratic process, which involves both myself and research participants (McMillan & Schumacher, 2010:370). Since I become a participant in the research environment, elements of subjectivity and bias are acknowledged and declared, so that opportunities are provided to construct meaning through discussions and interactions with others (Creswell, 2009:8). This links to the ontological view of interpretivists, who believe that reality is socially constructed and therefore limits objectivity. The social world is what people perceive it to be and may be altered, depending on experiences,

culture and circumstances. Interpretivists do not try to conduct value-free research, but aim to share and discuss the values that shape their research with those that form part of the research.

1.10.2 Approach

Interpretivists follow an inductive approach to research, which aims to generate meaning from collected data (Du Plooy-Cilliers, 2014:49). Linked to sharing values and meaning with others, inductive research attempts to identify patterns and relationships towards the development of a conceptual framework (Dudovskiy, 2019). Research using an inductive approach is concerned with the context in which events take place. The focus of an inductive approach is a closer understanding of the research context and the utilisation of a more flexible structure, to collect and interpret data that will permit changes as the research progresses (Saunders, Lewis & Thornhill, 2009:126). Related to interpretivism, the inductive approach acknowledges that the researcher is part of the research process.

Within the context of the inductive approach, it is necessary to explain that the focus of this research was on creating a conceptual framework pertaining to the cohort supervision framework in an ODeL environment. Inductive theorising was used to study the viewpoints or aspects of the application of the cohort supervision approach within the context of existing theories and literature, as well as, and in relation to personal views and experiences (Babbie, 2014:54). Data obtained from this analysis was used towards the induction of a conceptual framework. Grant and Osanloo (2014:17) describe a conceptual framework "*as a system of concepts, assumptions and beliefs that support and guide the research*." The focus of the conceptual framework was to identify key components and dynamics and the relation between them, that would inform the cohort supervision approach in an ODeL context.

1.10.3 Design

Considering the suggestions by Creswell (2009:8) and Saunders et al. (2009:126) that a more flexible design be used during inductive research, a bricolage design was proposed for the development of a conceptual framework in the use of a cohort supervision framework in an ODeL context. Bricolage research is a multi-perspective,

multi-theoretical, multi-methodological and multi-layered design that is particularly relevant to education, where the focus is on human inquiry (Rogers, 2012:1; Mahlomaholo, 2014:171). The bricolage design appreciates the complexity of the issue/s being investigated and is useful to answer questions that do not lend themselves to easy answers.

The bricolage design allows for the use of various methods to obtain rich data, which will enable a more detailed and comprehensive understanding of the research questions. This is the value of bricolage, since it provides an opportunity for the researcher to achieve new goals, based on existing information (Kincheloe, 2001:680). Bricolage also allows researchers to use diverse methods to answer research questions through design knowledge, rather than the proposition of concrete answers (Yee & Bremner, 2011). Bricolage does not search for new tools and has no simplistic or linear plan to conduct research. Rather, it is dependent on existing content to propose evolutionary insights towards the achievement of new understanding (Mahlomahlo, 2013:384). Bricolage research is active rather than passive, meaning that the researcher actively constructs solutions to research questions. Applied to this research, the bricolage design drew on theories and literature, as well as the experiences of experts on cohort supervision, to be considered in the development of a conceptual framework for a cohort supervision framework.

1.10.4 Data collection

A multiplicity of voices are included in bricolage research (Rogers, 2012:1; Mahlomaholo, 2013:386). These may come from existing literature, viewpoints of co-researchers, theoretical and model points of departure and texts such as fieldnotes, observations and reflective journals. Similarly, extra data sourced from literature, personal experiences, knowledge of the context of practice and reflection are to be added to obtain more rich data (Ngulube, 2018;90). Input from various sources is required to deconstruct any possible monolithic view of the research topic. The utilisation of various sources reflects a richness of data towards the identified research questions. Following an inductive approach in the bricolage design, several data collection techniques applied: a literature review leading to a detailed thematic analysis and an analysis of interviews, to obtain viewpoints of co-researchers on the

dynamics required to develop a cohort supervision approach. Detail on the data analysis process appears in Section 1.10.6.

The literature review involved identifying, locating, synthesising and analysing concepts applicable to the research topic. It is important, because it provided an insightful discussion of the literature that can be used as a logical framework for the context of the research (Williamson, 2013:40). Since bricolage research relies on the inquiry of multiple viewpoints, topical sources were used as units of inquiry, to show relationships between concepts, principles and practices, as a base to develop a conceptual framework (Elo & Kyngäs, 2007:107). To achieve this, a thematic data collection process was followed during Study 1. A thematic analysis is a method that can be used to identify, analyse and report on themes in textual data (Braun & Clarke, 2006:6). The emphasis is on developing a system for categorising data into themes, so that the researcher was able to cluster segments of data together as they relate to the research question (Williamson, Given & Scifleet, 2013:420). A theme refers to a recurrent and distinctive feature in the text that the researcher perceives as being relevant to the research question (King & Brooks, 2018:2). Using thematic analysis in the context of the bricolage design is appropriate, since the focus of bricolage is to create new understanding based on existing knowledge (Kincheloe, 2001:680).

Within the context of this research, existing literature was used to create themes of important components to consider in the conceptual development of a cohort supervision framework. Thematic analysis in this research was *theoretical*, where the focus was on coding towards themes to answer a specific research question, driven by the researcher and her concerns (King & Brooks, 2018:10). The emphasis was on identifying patterns in the data that are important or interesting and using these as themes to address the research question (Maguire & Delahunt, 2017:3353). The framework presented in Figure 1.1 influenced the analytical inquiry. Key themes related to the promotion of learning, engagement, dialogue promotion and technology-enhanced learning infrastructure informed the exploration and analysis of existing literature.

Clarke and Braun (2013) differentiate between two levels of themes, namely semantic and latent. Semantic themes relate to presenting surface data, as it has been reported

in the literature. However, to give credit to the value of thematic analysis, this alone does not suffice (Nowell, Norris, White & Moules, 2017:2). A rigorous latent thematic analysis is also required to produce trustworthiness and insightful findings. Following the six-phase guide of thematic analysis proposed by Braun and Clarke (2006), selected sources were analysed, and themes deduced, with a feedback loop to revise and affirm themes that informed the research question. Briefly, the steps include becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining themes and writing up the detailed analysis (Maguire & Delahunt, 2017:3354). Themes identified during the thematic analysis form the foundation for the conceptual framework and enlarged perspectives on the specific phenomenon in question (Jabareen, 2009:55). Annexure A provided detail on the thematic analysis conducted in this research.

Once the conceptual framework had been composed, an interrogation of these findings was undertaken. Input from participants after the development of the conceptual framework was required, to identify dynamics to consider during the application of cohort supervision in an ODeL environment.

Linked to Study 2, semi-structured interviews provided the researcher with the opportunity to capture the perspectives of participants, whilst ensuring that the interviewees focused on issues relevant to the study (Williamson, 2013:361). The aim of the interviews was to obtain participants' views on cohort supervision (Kumar, 2011:160). Flexibility and spontaneity in the execution of the interviews influenced the scope and depth of detail shared by the interviewees. The interview guide, as approved by the Stellenbosch Ethics Committee, is attached as Annexure B. It is important to note that in the true bricolage design, additional questions were asked for further clarity to cater for unique individual circumstances. The essence of questions asked did, however, remain similar, to provide for an enhanced opportunity to understand views as they related to the research issue.

1.10.5 Population and sampling

Linked to the sub-research questions, the population for this research was two-fold. As Study 1 focused on a thematic analysis to identify themes as the foundation of the

cohort supervision conceptual framework, existing literature from authoritative sources that may shed light on the key topic of the research, was interrogated. Topical sources from various databases related and linked to cohort supervision were identified and reviewed. Databases consulted included *Academia.edu, EBSCOhost, Google Scholar, ProQuest, Research Gate, Sabinet (specifically African Journals, previously known as SAePublications), SAGE, Scopus, Springer, Taylor and Francis,* and *Web of Science*. Key search strategies used to select relevant sources included:

- Cohort “AND” Supervision
- Cohort “AND” Supervision “AND” South Africa
- Supervision “AND” Distance “AND” Education
- Supervision “AND” Types
- Alternative “AND” Supervision “AND” Methods
- “Supervision” AND” Technology

Excluding duplicate articles in these databases, a total of 148 articles were identified. Once the initial number of units of analysis have been identified, a process of winnowing was applied (Creswell & Creswell, 2018:192). Because text data is so dense and rich, all of it could not be used within qualitative research. I therefore applied winnowing to identify data specifically related to the research question. I used judgemental sampling to refine the sample of articles included. Judgemental sampling was deemed necessary, as not all articles identified during the initial search applied to the theme of the research. Bless, Higson-Smith and Sithole (2013:177) explain that the purpose of judgemental sampling is to identify sources with the most representative element – in this case, cohort supervision in an ODeL context.

As a first step in identifying sources to consider during the thematic analysis, I scanned sources to omit all irrelevant articles (Williamson, Given & Scifleet, 2013:422). Articles related to developing supervision skills, supervision perspectives of postgraduate students and supervision as an advanced teaching practice with no relevance to cohort or other supervision types, were excluded. A total of 86 articles remained as an initial sample. Through a second process of winnowing, the remainder of the sources were perused and only those that provided detailed information on cohort supervision

as a supervision approach, were selected. Only 15 sources remained. Since the research also related to supervision practices in an ODeL context, 19 further sources from the sample that focused either on supervision in an ODeL context or using technology towards supervision practices, were added. A total of 34 sources were analysed to create themes that informed the conceptual cohort supervision approach. For the purposes of this research, the coding framework inclusive of the authors who refer to these codes for audit trail purposes was compiled and included in Annexure A, prior to the presentation of detail on the thematic analysis related to the key codes and sources.

With regards to Study 2, the population from which the sample was drawn included individuals that are involved in postgraduate supervision at various higher education institutions, albeit nationally or internationally. Since an entire population cannot be included in a study, the contextualisation of the target population is important, so that only those with knowledge and experience related to the research topic can be identified (Pascoe, 2014:133). Because the focus of the research was on cohort supervision, participants with prior knowledge of it, either in a face-to-face or distance education environment became the target population. I identified two relevant groups of participants:

- those with extensive experience in the application of cohort supervision, but not necessarily in an ODeL context, such as experts working at the University of KwaZulu Natal, the University of the Free State, Rhodes University, University of Aveiro (Portugal), and the Queensland University of Technology (Brisbane); and
- those with some experience in applying cohort supervision in a distance education environment, such as the University of South Africa.

Shanks and Bekmamedova (2013:174) propose that an information-oriented sampling method be followed. Information-oriented sampling implies that only individuals with knowledge related to the field of research are selected as part of this sample. This was coupled with snowball sampling to identify participants that may provide further input on the construct of a cohort supervision framework. Through the combination of these sampling methods, participants with in-depth knowledge of cohort supervision were

identified. By perusing existing literature, I identified information-oriented experts and contacted them to request their assistance in the research. Thirty-one e-mails were sent out. Nine prospective participants responded. Three individuals recommended other more knowledgeable experts to be contacted, implying that snowball sampling occurred naturally. During the interviews, participants were asked to recommend other cohort supervision experts that may also be interested in participating in the research, to ensure the full application of snowball sampling. In total, I conducted 13 interviews. Of these, three were from the ODeL university, four from residential universities in South Africa that engage in cohort supervision at the University of Kwazulu-Natal, University of the Free State, Nelson Mandela University and Walter Sisulu University. Six participants from international institutions participated, including the following countries: Australia (1), Belgium (1), Sweden (2) and the United Kingdom (2). Of the international participants, three had prior experience in the application of cohort supervision in a distance education context.

The principle of saturation determined the number of participants interviewed. Saturation was reached at participant 11, but as interviews were already scheduled with the last two participants, these interviews were included to add to the richness of data obtained during the interview process. Saturation refers to the point where participants are not providing new information, or new information is negligible (Kumar, 2011:213). Interviews were carefully planned and linked to a semi-structured interview guide, to ensure that key information on dynamics to consider when applying cohort supervision, could be obtained. The semi-structured interview guide ensured that views and opinions of participants were obtained, whilst keeping within the boundaries of the research. This approach facilitated the descriptive analysis of data, to expand the literature and theoretical analysis.

1.10.6 Data analysis

Related to Study 2, the thematic analysis style proposed by Braun and Clarke (2006) was used. The decision to use this thematic analysis was made based on the use of latent themes to analyse text data, where themes from the data are strongly linked to the collected data sets (Braun & Clarke, 2006). Including latent themes ensured that data was explored in-depth and that codes and themes were abstracted, which

reflected the latent meaning of texts to be considered in the development of a conceptual cohort supervision framework. The coding process of research data did not fit into a pre-existing frame or conception of the researcher but provided scope for inducing meaning from collected data. Adapted from Maguire and Delahunt (2017:3354) and King and Brooks (2018:10-11), the process of data analysis followed during Braun and Clarke's Style of Thematic Analysis are presented in Figure 1.2:

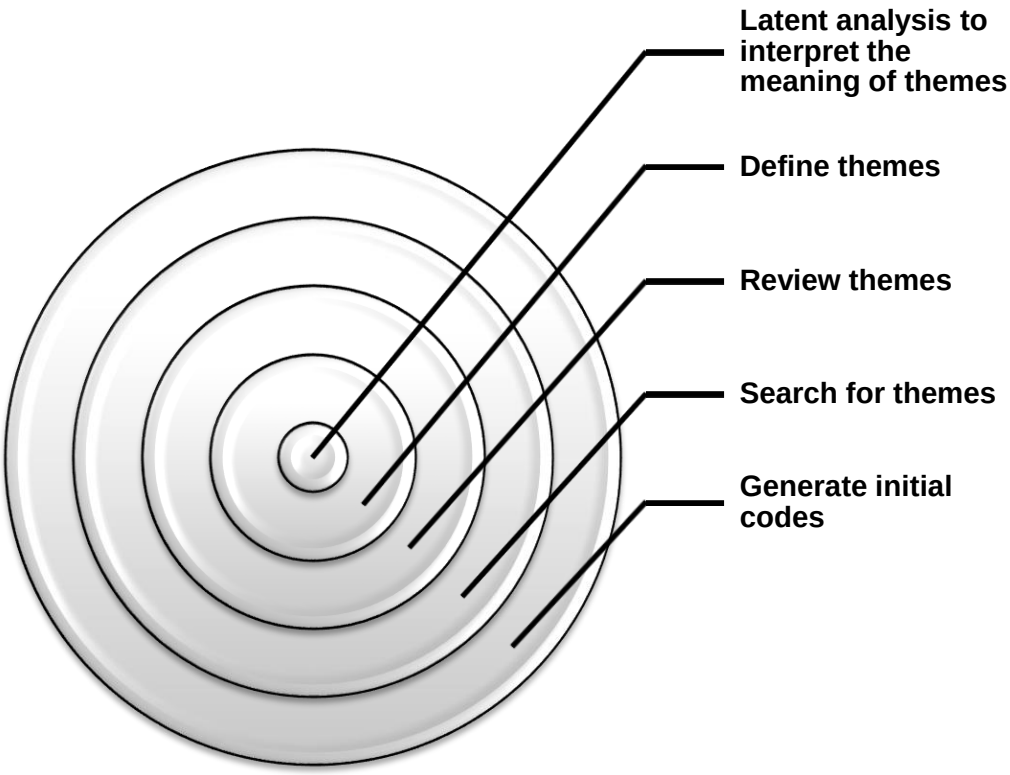

Figure 1.2: Proposed thematic analysis process
(Adapted from Maguire & Delahunt, 2017:3354; King & Brooks, 2018:10)

Briefly, the process of analysis commenced with reading through the data to become familiar with the entire body of data. Notes were made on the PDF versions of sources to conceptualise early impressions. From these notes, data was organised in a meaningful and systematic way, using a preliminary coding system, sorting sources into categories related to 'cohort supervision', 'supervision in an ODeL context' and 'technology in supervision'. From there, components related to two applicable theoretical / model points of departure were considered to expand the codes. The first of these relates to the typology of research supervision model which proposes that components such as functional management, enculturation, critical thinking,

emancipation and quality relationships influence supervision practices (Lee, 2008:268). The second relates to the community of inquiry theory which aims to develop student-centred teaching and learning practices in online distance education environments (Garrison & Akyol, 2013:106). This theoretical / model departure has at its heart the expansion of cognitive development, teaching presence and social presence to expand educational experiences. Related to the theme of the research and linked to the supervision typology and community of inquiry, I developed a coding system and modified it as I worked through the sample documents. As already indicated, Annexure A provides a summary of codes that were used during open coding, linked to the sources applicable to each code.

Codes were allocated manually as I worked through copies of the sources. Semantic content related to codes were captured on a Microsoft Excel spreadsheet to help identify themes. Maguire and Delahunt (2017:3356) suggest that the use of computer software during this step is useful, as it assists in organising data sets. In step three the codes were examined to determine areas of overlap or codes that clearly fit together. It is important during this step that the researcher starts to think about the relationship between codes and themes and between different levels of themes (Braun & Clarke, 2006). Key codes that were identified during this step included:

- Challenges
- Cohort programme structure
- Communication
- Communities of practice
- Content knowledge
- Dialogue promotion
- Enculturation
- Feedback
- Group work
- Monitoring
- Reflection
- Research engagement
- Resource requirements

- Roles and responsibilities
- Scaffolded learning
- Technology tools
- Values

During step four codes were collated into broader themes that related specifically to the research question. Each theme was reviewed to identify comprehensive themes and to ensure the data associated with the theme was contextualised within the correct theme and correctly interpreted. This involves reviewing at a level where coded data has been extracted, as well as at the higher thematic level (King & Brooks, 2018:11). Broad themes that were identified using the coding system included:

- structured programme that provides time and space for the development of learning opportunities;
- technology tools to be used to expand cohort supervision activities and encourage engagement;
- resource requirements to create and maintain cohort supervision;
- roles and responsibilities of key stakeholders;
- monitoring of the research process using cohort supervision;
- content knowledge development to improve methodological content knowledge;
- engagement in own research as well as that of others;
- scaffolded learning to develop research knowledge and skills;
- feedback to encourage critique and reflection;
- reflection-on-action to identify progression and value of the cohort process;
- group work to encourage engagement;
- dialogue promotion to communicate about research goals;
- through enculturation and emancipation promote communities of practice; and
- through the process of empowerment, promote scholarly engagement.

Step five required the refinement of each theme to identify its essence. This information was used to create a thematic map of key themes associated with the development of a conceptual cohort supervision framework. Detail on the thematic

map that illustrates the relationship between themes and sub-themes related to the conceptualisation of a cohort supervision framework was included in Study 1, Chapter 2.

The final step in the process required the write-up and explanation of the proposed framework, based on themes identified in the thematic map. Detail on the thematic map and how it may be utilised to create a cohort supervision framework was presented in Study 1. Braun and Clarke (2006) explain that the purpose of the write-up of the thematic analysis is to present the complicated data in a way that convinces the reader of the merit and validity of the analysis.

Related to Study 2, interviews were transcribed and codes and themes similar in transcriptions were identified. A similar process to thematic analysis was followed, with data organised, coded and interpreted to report on the findings. To support the trustworthiness of the data analysis process, the steps proposed by Bezuidenhout and Cronje (2014:233), linked to the thematic analysis style proposed by Braun and Clarke (2006) were followed, as presented in Figure 1.3.

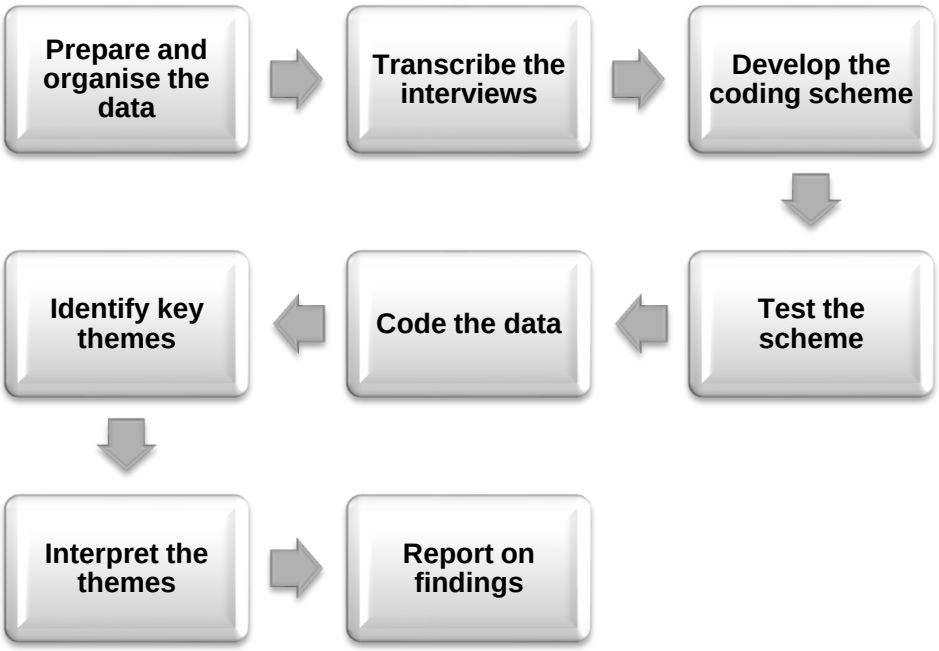

Figure 1.3: Interview data analysis

(Adapted from Bezuidenhout & Cronje, 2014:233; King & Brooks, 2018:10)

The first step required the compilation of a master list of all participants and the recoding of the list to secure the anonymity of individual participants. Alphabetical codes were assigned to protect the anonymity of each participant. Interviews were transcribed using MS Office Word processing software. The full range of responses from participants were included to prevent the omission of relevant and significant data. To enhance the trustworthiness of the transcripts, the documents were shared with individual participants to ensure the accuracy of transcribed data. As with the thematic analysis, a pre-set code structure was created, based on the questions asked during the interviews. It is important to note that Majumdar (2019:199) refers to the practice where research questions are presented as themes, as '*bad thematic analysis'*. To avoid this practice, key components of the research questions were used as a starting point for coding and not for theme identification. The following coding scheme was used:

- Motivation for using cohort
- Value of cohort
- Cohort supervision structure
- Motivation of students
- Motivation of supervisors
- Relationship management
- Communities of practice
- Support
- Engagement
- Technology
- Planning
- Implementation

These codes were used to identify and define themes, which were further explored through combining viewpoints of participants with the literature. Key themes based on the codes included:

- Motivation for engaging in cohort supervision
- Formation of cohort groups

- Planning for the cohort supervision process
- Executing the cohort supervision process
- Building communities of practice
- Views towards future and expanded use of cohort supervision

The data analysis process occurred by following a recursive process, where the researcher moved back and forth between the collection and analysis processes (Williamson, Given & Scifleet, 2013:422). Detail about the key themes were linked to relevant literature, so that I could apply personal assessments of the data in a descriptive format. The results of the recursive analysis process resulted in the compilation of the second article.

1.10.7 Trustworthiness

Trustworthiness is imperative when working with qualitative data because of the subjective nature of interpretivism. Trustworthiness of data is required to ensure that the empirical findings are credibly related to the phenomenon under investigation (Babbie, 2014:154). Kara (2016) explains that in qualitative research, components such as sincerity, credibility and coherence are important to substantiate the trustworthiness of research.

Sincerity requires honesty and transparency in terms of the research process and requires disclosure of methods and decisions, as well as challenges experienced during the execution of the research. Sincerity was assured when the thematic analysis of both the literature sources and interviews provided for rich, detailed and complex accounts of data (Nowell et al., 2017:2). Sincerity was further achieved by keeping an audit trail of all codes, combinations of codes and identifications of themes (Annexure A) (Maguire & Delahunt, 2017:3358).

Credibility relates to sincerity, in that the researcher can provide thick descriptions to elucidate meaning. This is closely associated with multiplicity in the research where multiple sources and views of participants are presented to support and substantiate viewpoints. The creation of transcriptions as well as content analysis maps as visual representations of the data collection and analysis process (meticulous record

keeping) offered the researcher the opportunity to ensure further credibility of the findings (Williamson, 2013:14). Because qualitative research is biased, it was important for the researcher to document and report on all aspects of change or unexpected views, to further support credibility. Credibility was further enhanced by sharing transcripts with participants and obtaining their assurances of the accuracy of the interviews. Credibility was created through the richness of data collection and the depth and detail applied to develop the conceptual framework as presented in Annexure A and described in Study 1.

Coherence is achieved when the research achieves what it sets out to achieve (Kara, 2016). Coherence increases the measure of accuracy which can be verified through cross-checking findings among participants and with numerous literature sources that offer multiple perspectives. Coherence can also be increased through creating opportunities for transferability; i.e. when another researcher can apply ideas from the research to another situation. As part of Chapter 4, several suggestions were made for further research, based on the findings obtained during the completion of both Study 1 and Study 2. More detail on the application of components of trustworthiness related to the individual studies had been included, to indicate how the trustworthiness of findings related to the cohort supervision framework and dynamics to consider in the application thereof in an ODeL context, may be supported.

1.10.8 Ethical considerations

Negotiations are required in inductive research to ensure that ethical standards of conduct are agreed on and adhered to (McMillan & Schumacher, 2010:338). This means that permission (informed consent) was gained from participants to indicate their willingness to engage voluntarily in the research. An example of the consent form was included in Annexure C. Embedded in this consent are the assurances of the researcher that participants' personal details were treated as confidential. Anonymity was ensured by the coding of names of participants and places, as per the suggestion of Johanson (2013:449).

The questions included in the interview guide focused only on experiences and views related to cohort supervision. Participants were given the opportunity to withdraw from

the research, if they felt in any way uncomfortable with the range of questions asked. The anonymity of participants was ensured by allocating a unique code to each participant. In this way views of participants remained anonymous to the reader and provided participants with the freedom to be truthful and honest in their feedback.

Since the aim of the project was not to compare cohort supervision approaches applied in different higher education institutions, names and details of institutions were not mentioned. Gatekeeper permission was not obtained from any organisation because the context of the organisation was less important than the experiences and expertise of participants engaged in the research. Gatekeeper permission was also not sought as it is impossible with snowball sampling to identify participants beforehand. There was not just one gatekeeper organisation, because participants from several organisations were targeted during the research. It was made very clear in the consent form that no information about organisations or where participants reside, would be included in the data analysis information.

Transcripts were made available to participants, to ensure that their views were objectively and accurately represented. This was an important component of trustworthiness. Although physical harm of participants is seldom part of inductive research, a sense of caring and fairness was adhered to by the researcher, so that actions did not bring about psychological harm. The potential benefits of the research project outweigh any potential harm to participants (Creswell, 2014:38). Ethical clearance was obtained from the University of Stellenbosch and all components of the ethics policy were adhered to. The project number related to ethical clearance is REC-2019-9008, with project title: Cohort supervision as a framework at postgraduate level.

1.11 Conclusion to the chapter

The aim of this first chapter was to contextualise the study. Since an alternative dissertation structure was followed, the contents of the study encompassed components about the introduction to the research (research problem, objectives and research questions), as well as detail related to the theoretical and model points of departure and methodological framework that informed the research. In line with the view of Creswell (2014:96) that in qualitative research, literature is not extensively

discussed at the beginning of the research, but used to document or justify the importance of the research problem, no extensive literature review was included. Instead, the context of cohort supervision, distance education and the application of cohort supervision in distance education received attention as background to the research. The discussion in the introduction and problem statement indicated that problems are being experienced in supervising vast numbers of students from diverse environments by using the apprenticeship supervision approach. As suggested by Choy et al. (2015:42) cohort supervision should be considered as a supervision approach, since it promises several efficacies that can improve supervision practices.

The final section in this chapter focused on the methodology that was followed during the execution of the research. From an interpretivist viewpoint, the research was inductive, since the focus was on using existing theoretical and model points of departure, literature and viewpoints from participants to explore the composition of a cohort supervision conceptual framework. A bricolage design was applied, meaning that various data collection tools were used to create a more detailed and comprehensive understanding of the research questions. Bricolage provides researchers with an opportunity to create new knowledge and understanding towards answering new goals. In the context of this research, the ‘new goals’ focused on proposing and obtaining views on a framework for the use of cohort supervision in an ODeL context and the dynamics to consider when implementing it in a distance education environment.

Chapter 2: The praxis of cohort supervision in ODeL: A conceptual framework

Abstract

In response to the challenges posed by massification, underprepared students and low throughput rates in the postgraduate education environment, alternative supervision approaches are to be considered for an open distance e-learning (ODeL) higher education institution. This article proposes a conceptual four-stage cohort supervision framework based on a thematic analysis of existing literature. The application of such a supervision framework may provide opportunities to increase support, eliminate feelings of isolation, and enhance motivation towards the completion of quality research outputs. The emphasis is on creating opportunities for collaboration, communities of practice, dialogue promotion, reflection, scaffolding, cumulative sequential development and enculturation. These are designed to support the achievement of research activities related to proposal completion, data generation, data analysis and the final composition of the research product. Proposing a structured framework for cohort supervision in an ODeL context is a starting point for further research, to streamline and improve on the proposed four-stage cohort supervision framework.

Keywords: cohort supervision; distance education; online learning; technology; collaboration; dialogue

2.1 Introduction

Increasing the number of postgraduate completions in South Africa is a national priority. The country is in dire need of researchers to contribute towards the growth and development of a sustainable modern knowledge society (Vale & Boyte, 2019). The Department of Higher Education and Training (2018:1) seeks as one of its main objectives to increase the quality and rate of skills development necessary for growth and social development. Towards this end, South African higher education institutions are compelled to become the drivers of development, by not only increasing the

number of qualified postgraduate students, but also the quality of research outputs and the number of young scientists actively pursuing research careers (Beaudry, Mouton & Prozesky, 2018:45; Mouton, Basson, Blanckenberg, Boshoff, Prozesky, Redelinghuys, Treptow, van Lill & Van Niekerk, 2019:2). More effort is required to create research infrastructures supportive of research progression (Maluleka & Ngoepe, 2019).

Quality supervision is required to achieve the purposes of higher education (Hutchings, 2017:533). According to the Department of Higher Education and Training (2018:9) these purposes include high-level skills development to meet employment needs; production of new knowledge; finding applications for existing knowledge; and creating opportunities for social mobility. Supervision towards achieving these higher education purposes requires the offering of functional support, mentoring, academic writing support, emotional encouragement and guidance to increase research outputs (Fynn & Janse van Vuuren, 2017:188). Engagement in these roles contributes to the rising pressure on supervisors to explore alternative supervision approaches to the traditional dominant apprenticeship mode (Bitzer & Albertyn, 2011:875). The support, guidance, interaction and communication limitations of the apprenticeship approach impede its relevance to support the increased research capacity required in South Africa (Mouton et al., 2019:2). Furthermore, the continuous use of apprenticeship supervision does not cater for unique needs of large numbers of underprepared students entering the higher education environment (Van Biljon & De Villiers, 2013:1443). For example, in 2007, on average, supervisors supervised five master's and two doctoral students. This number had doubled by 2009 and is still rising (Mouton, Boshoff & James, 2015:3).

In considering alternative supervision approaches, Heeralal (2015:90) calls for a pedagogy *for* supervision, where supervisors are flexible in their engagement with students and take cognisance of the transformation required to support postgraduate students. Such a pedagogy requires the inclusion of supervision practices that are founded on the principles of group engagement, participation in communities of practice, open and honest dialogue and a balanced power relationship (Wichmann-Hansen, Thomsen & Nordentoft, 2015:19; Swarts, 2017:231; Agné & Mörkenstram, 2018:669; Robertson, 2019:xi). A pedagogy for supervision embraces the notion of

connectedness, enculturation into a disciplinary community and the emancipation of students to find their own scholarly voices (Maor & Currie, 2017:2).

Changing from the traditional apprenticeship supervision framework to a supervision pedagogy towards alternative approaches is complex, as it requires a revision of the entire research process (O'Neil, Schurink & Stanz, 2016:212). In an ODeL environment, this change is even more complicated, since students and supervisors are not only geographically separated but may have trouble in connecting socially and culturally through technology mediated learning environments (Picard, Wilkinson & Wirthensohn, 2011:955; Maritz, 2013:158). Challenges related to insecurities about learning, fear of failure, increased feelings of isolation and diverse language skills of students entering the ODeL environment further complicate the use of alternative supervision approaches (Van Biljon & De Villiers, 2013:1444).

Some authors argue that more research is required to provide a conceptual grounding for the use of cohort supervision in an ODeL context (Govender & Dhunpath, 2011:94; De Lange, Pillay & Chikoko, 2011:17). Even though there is strong advocacy for the development of cohort supervision practices (Preece, 2014:43), there is scant commentary on how to develop a cohort framework that supports supervisors and students during the research process (Choy, Delahaye & Saggers, 2015:20). In this article I therefore set out to propose a cohort supervision framework to cater for the demands of ODeL supervision, using as the main question:

> *How can the cohort supervision framework be conceptualised as an alternative supervision pedagogy in an ODeL context*?

I explore this question through providing an overview of cohort supervision in ODeL. Within an interpretivist paradigm, I apply cohort supervision theoretical and model points of departure to identify key components of a cohort supervision conceptual framework through a thematic analysis. I conclude the article by proposing a four-stage cohort supervision framework for an ODeL environment. In developing and presenting the framework, I acknowledge my own positionality as a supervisor in Information Science within an ODeL environment. In relation to the necessity to express one's personal position and its influence on research (Manathunga, 2014:8),

I acknowledge my subjectivity as a South African female researcher from a European background and schooling, since key components may produce contamination of the lenses through which the research is perceived. However, being privileged to live in a large cosmopolitan city and having extensive experience of engagement with various cultures on both a personal and professional level, influence the values and principles that I embrace in my conduct with others. My supervision experience with students from various backgrounds through a distance eduction mode of delivery, influenced my selection of theoretical points of departure followed in this research. In addition to being sensitive to the enculturation and emancipation of postgradaute students, my focus was also to consider the distance education environment within which cohort supervision in an ODeL context occurs and the influence of this environment on supervision and research activities.

2.2 Cohort supervision in an ODeL environment

The purpose of cohort supervision is to create opportunities for collaboration, support and guidance to students, supervisors and other experts throughout the research process (Samuel & Vithal, 2011:84).Cohort supervision enables students to progress through their studies following a culminative sequential development process where individuals benefit simultaneously from the learning experience (Santicola & Morris, 2013:253). The cohort approach encourages the formation of a network of learning relationships (community of practice) that enables students to progress through their studies as an interdependent group (Wisker, Robinson & Shacham, 2007:309; Agné & Mörkenstam, 2018:669).

Within an ODeL context, where temporal, geographic, and communication distances exist between students and supervisors, cohort supervision can be used as an approach to create and strengthen learning experiences (Van Rooy & Madiope, 2013:159). In the context of little or no face-to-face engagement, technology is used to enable a fluid open research environment that promotes access to resources, social engagement, emotional support and research knowledge expansion (Mbatha & Naidoo, 2010:65). More than in residential institutions, students studying through a distance education mode require support in planning the research, monitoring progress through different research stages and receiving assistance with data

analysis. This is because the openness of ODeL creates opportunities for large numbers of underprepared students to enter the postgraduate learning environment (Van Biljon et al., 2019). I argue that applying cohort supervision within the context of temporal and spatial flexibility, where technology provides opportunities for interaction, encouragement and engagement, may provide an infrastructure to support postgraduate research endeavours in a distance education environment.

What I am not proposing is that cohort supervision is the only supervision approach that may be considered to provide extensive support and guidance to postgraduate students. As with any other supervision approach, cohort supervision also has limitations. Teitel (1997:71) purports that cohort supervision is a potential source of tension between supervisors and students, since the framework within which it is conducted is different from traditional teaching and learning practices. Govender and Dhunpath (2013:222) opine that emphasis on group engagement may hinder individual progress and responsibility. As explained by van Biljon et al. (2014:167), cohort supervision is challenging for individuals who work at different paces and with different methodological approaches. The allocation of faculty members to support such students may not always be possible. In instances where additional supervisors are roped in to support students with unique methodological or contextual needs, the workload of faculty members have increased considerably (Burnett, 1999:50). In addition, students may find the challenge of negotiating multiple sources of advice overwhelming (Samuel & Vithal, 2011:82), and also struggle with balancing power-struggles among students and with supervisors (Teitel, 1997:73). Despite these limitations, Govender and Dhunpath (2013:223) explain that underpinning views about cohort supervision related to the ‘seamless, harmonious and non-disruptive’ process of learning, warrants this supervision approach as a positive approach that provides opportunities for students to extend their existing boundaries of knowledge.

2.3 Towards a conceptual framework for cohort supervision in ODeL

Since theories and models are part of the conceptual framework of a study (Ravitch & Riggan, 2011:12; Ngulube, 2018:9), the conceptual framework related to this research aims to combine concepts from various theories and models to combine a number of related concepts to compose a wider understanding of the phenomenon of interest –

in this case cohort supervision as it may apply to an ODeL context. Ngulube (2018:3) states that even though theories and models are not synonymous, they do overlap and share elements of meaning. Whereas a theory predicts or explains a phenomenon, a model merely describes a phenomenon and is used to depict or illustrate a theory. Two pedagogical models of departure formed the foundation for the cohort supervision framework proposed in this article. The first relates to the typology of research supervision (Lee, 2008), whilst the second focuses on the community of inquiry theory (Garrison & Akyol, 2013). I selected these points of departure, since they provide the bedrock of key concepts to consider during the conceptualisation of cohort supervision in an ODeL environment.

The typology of research supervision theory by Lee (2008:270) is founded on the approaches of functionality, enculturation, critical thinking, emancipation and quality relationships. Functionality refers to a series of guides to encourage progression towards the completion of the research output. Enculturation relates to preparing students to becoming a member of a discipline through role modelling and apprenticeship, whilst critical thinking encourages the development of critical analysis, argument formulation and evaluation skills. Emancipation focuses on mentoring students and facilitating reflection towards personal growth, whilst relationship development requires the application of emotional intelligence to manage a collection of rapports (Lee, 2010:19).

In an ODeL environment, each of the five typologies are necessary to assist with negotiating a contextual framework to support the achievement of tasks and to encourage students to become part of the discipline community despite geographical distances. Relationship development is especially important as relationships of neglect, abandonment or indifference which are so often prevalent in distance education because of geographical and communication difference, may be the determining factor in the successful achievement of research outputs (Van Biljon et al., 2019).

In addition, the community of inquiry model by Garrison and Akyol (2013:105) aims to provide a dynamic educational context to inform online learning in higher education. The model has at its core key constructs related to cognitive, teaching and social

presences that support online educational experience, specifically related to theories on cooperative learning, dialogism, situated learning and social constructivism. Cognitive presence refers to creating opportunities to enhance critical thinking. It is the ability of students to engage with content in a critically reflective manner, where they are encouraged to question and analyse not just their own work, but also those of their peers (social constructivism) (Lee, 2010:19; Garrison & Aykol, 2013:108). The emphasis is on scaffolded learning, where students work collectively on different aspects of their learning and knowledge development (cooperative learning) (Heeralal, 2015:92). Methodological content knowledge expansion is imperative to ensure that students can defend methodological decisions and validate the quality of their research (situated learning and dialogism).

Making provision for cognitive learning in an online environment requires that a structured process be followed, where specific technological tools are applied to support the achievement of learning goals. Swarts (2017:232) refers to this as creating an active learning environment, where supervisors as ‘teachers’ guide and assist students to solve research problems. The functional approach mentioned by Lee (2018:880) relates to the teaching presence proposed by Garrison and Aykol (2013:108) where supervision is provided towards the achievement of specific goals that can be used to measure progress and milestones, as well as identifying areas of risk. The teaching presence stimulate intellectual rigour, offer opportunities to explore different ways of thinking and encourage students to analyse and recognise flaws in research arguments (Lee, 2018:880).

Based on the inquiry theory by Garrison and Aykol (2013:105), the final component of effective online supervision and engagement requires a social presence, where both supervisors and students engage synchronously and asynchronously with each other to stimulate dialogue. This is aligned with the view of Lee (2018:881) that group engagement plays an important role in facilitating learning. Small groups led by a combination of senior researchers and students are likely to be successful, as they can promote useful discussions and critical engagement. Communities of practice are required to encourage a sense of belonging (enculturation) (Samara, 2006:117). Enculturation is important in the cohort, since it emphasises the importance of the group structure to provide learning direction (Lee, 2018;880).

The creation of a social presence that supports supervision is based on affective interpersonal communication to show emotions and share humour. Open communication encourages critical reflection and disclosure through recognising, complimenting and responding to comments by others. The emphasis is on goodwill, friendship and wisdom in creating boundaries and managing conflict (Lee, 2010:19). Social interaction requires that participants take responsibility to engage actively to achieve the goals set by the group. Such responsibility promotes emancipation, where students learn to become autonomous through discovering their personal voices as confident scholars in their disciplines (Lee, 2018:881).

Following on the points of departure of Garrison and Aykol (2013) and Lee (2018) towards the conceptualisation of cohort supervision in an ODeL context, I adopted a bricolage design to create a context for the proposed cohort supervision framework. Bricolage neither searches for new tools nor is it founded on a simplistic linear research process; rather it is emergent and uses what is available to attain new insights (Mahlomaholo, 2013:384). Towards this end, I employed a thematic analysis to generate themes found within relevant literature that inform the cohort supervision framework in an ODeL environment. Thematic analysis was used as a data collection tool to identify, analyse, organise, describe and report on themes associated with key components, as purported in the theoretical points of departure (Nowell, Norris, White & Moules, 2017:2). The focus is on identifying patterns within the literature that can support the trustworthiness of the research findings (Maguire & Delahunt, 2017:3352).

I applied the six-step thematic analysis proposed by Braun and Clarke (2006:16), which involves becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining themes and analysing themes for greater insights. In undertaking this analysis, I ensured trustworthiness by obtaining key thematic information from a variety of relevant sources, to ensure credibility or true value of data that supports consistency and confirmability of facts (De Lange et al., 2011: 21). I explored data sets related to online information resources (journal articles) that could be retrieved from various academic databases. Conducting database searches by using the key phrases ‘cohort supervision’ and ‘distance education’ on *Academia.edu, EBSCOhost, Google Scholar, Proquest, Research Gate, Sabinet (specifically African Journals, previously known as SAePublications), Scopus, Springerlink, Taylor &*

Francis and the *Web of Science*, yielded 148 articles of interest. I winnowed this data set by reading through the abstracts of the articles for direct relevance to the research topic, as suggested by Creswell and Creswell, (2018:192). Through the process of winnowing, I finally selected 34 sources that I analysed by using a preliminary coding system, based on key components identified within the theoretical framework. The selected articles represent countries from all over the world; namely South Africa (n=18), Australia (n=6), Europe (n=4), United Kingdom (n=4) and the United States of America (n=2), as depicted in Table 2.1 below.

Table 2.1: Sources used for analysis

Area	Relevant sources
South Africa	De Beer & Mason (2009) Bitzer & Albertyn (2011) De Lange et al. (2011) Govender & Dhunpath (2011) Samuel & Vithal (2011) Schulze (2011) Van Biljon & De Kock (2011) Govender & Dhunpath (2013) Van Biljon & De Villiers (2013) Samuel & Mariaye (2014) Van Biljon, Van Dyk & Naidoo (2014) Heeralal (2015) Rout, Sommerville & Aldous (2015) Fynn & Janse van Vuuren (2017) Manyike (2017) Swarts (2017) Gumbo (2018) Gumbo (2019)

Table 2.1: Sources used for analysis cont.

Australia	Burnett (1999) Glover (2010) Picard et al. (2011) Choy et al. (2015) Harrison & Grant (2015) Maor & Currie (2017)
Europe	Dysthe, Samara & Westrheim (2006) Loureiro, Huet, Baptista & Casanova (2010) Wichmann-Hansen et al. (2014) Agné & Mörkenstam (2018)
United Kingdom	Wisker et al. (2007) Watson (2011) Donnelly (2013) Hutchings (2017)
United States of America	Teitel (1997) Santicola & Morris (2013)

Using latent thematic identification where the aim was to examine underlying ideas, assumptions and conceptualisations, themes were identified and reviewed to create a construct that may provide answers to the main research question (Maguire & Delahunt, 2017:3351). Themes need to be compounded in a thematic map, associated with the theoretical construct, to bring credibility to the findings (King & Brooks, 2018:11). This promotes transferability of the findings; allowing the reader to decide whether the themes are applicable to their own settings (Nowell et al., 2017:4). In Figure 2.1, I presented the thematic map, linked to an array of themes that may be considered in conceptualising a cohort supervision framework within an ODeL context.

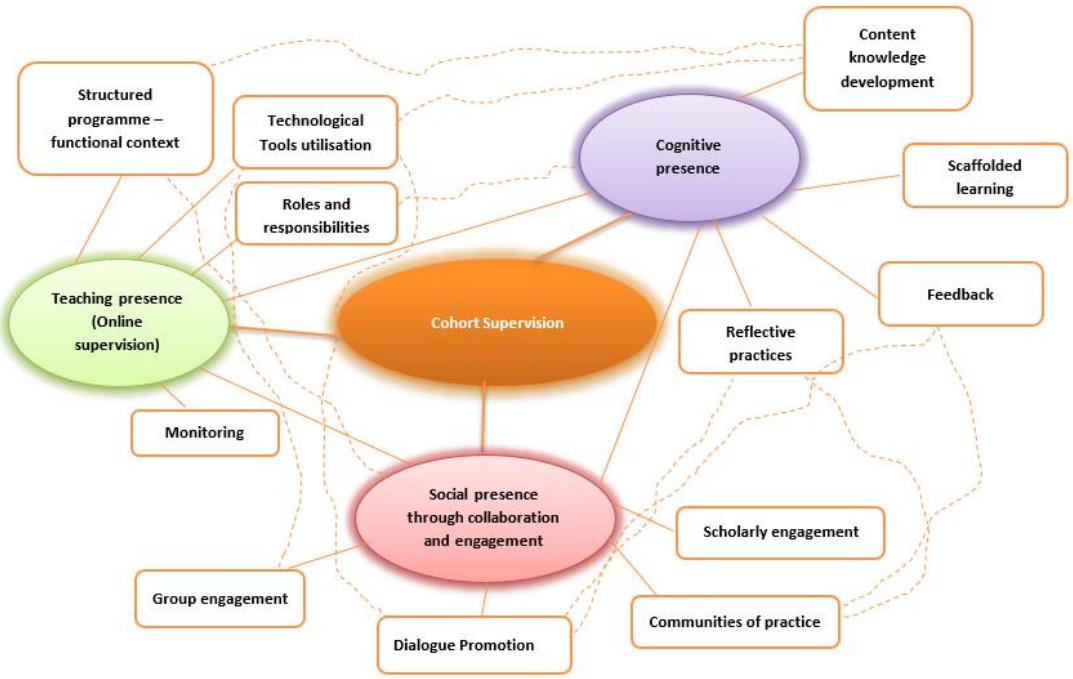

Figure 2.1: Thematic map

What is important to note about the thematic map, is that themes were presented in a categorised manner. However, developing a thematic understanding of a topic requires a more holistic and interrelated focus, which is not completely represented in the thematic map (Nowell et al., 2017:3). I followed the guidelines proposed by Maguire and Delahunt (2017:3352) in seeking to present the information in a concise, coherent, logical and interesting manner within and across themes. The focus was on exploring components related to the thematic map, based on viewpoints extracted from extant literature (Braun & Clarke, 2006:16)

2.4 A proposed cohort supervision framework for ODeL

The success of the development of the cohort supervision framework lies in how well the framework is developed for a unique supervision environment (Choy et al., 2015:123). As the focus was on proposing a conceptual framework for cohort supervision in an ODeL context, the characteristics of distance education in relation to temporal, geographic and communication distances between cohort members were considered in relation to best practice examples presented in the literature. Following the proposal by De Lange et al. (2011:16), that components be ‘borrowed’ from existing literature, the final section of the article explored and proposed a cohort

supervision framework for an ODeL environment aligned to key theoretical points of departure.

2.4.1 Exploring the teaching presence in cohort supervision at an ODeL institution

The teaching presence relates to the structure of the cohort supervision approach, the use of technology tools to support the execution of cohort supervision in an ODeL environment and the identification of roles and responsibilities to support the implementation of the cohort supervision approach. Teaching presence in an ODeL context differs vastly from face-to-face environments, as the teaching voice and interaction between supervisors and students are construed though written comments and online synchronous and asynchronous engagements. The superisor as the teacher is not present in the conventional synchronous form, but in an asyntopic and asynchronous form, which is simulated through the use of various technology tools. Through the use of written feedback and online engagements, a formal structure is proposed by various authors, where students and supervisors engage in methodological knowledge development, as well as the research process towards the achievement of the research outputs (Govender & Dhunpath, 2011; Samuel & Vithal, 2011; Van Biljon et al., 2014; Wichmann-Hansen et al., 2015). Samuel and Vithal (2011:79) suggest three phases from “refining the research design, to engaging with producing data within the field and finally to the writing of the thesis report”.

De Lange et al. (2011:18) propose a similar structure but based it on the execution of three phases aimed at increasing throughput rates. Sessions are to be carefully organised to focus on aspects of research, presentation of work, critique and feedback by peers and supervisors. Students within this cohort are encouraged to work towards achieving similar outputs at definite stages of their research. By implication, the focus is set on completion times of a qualification to ensure that students who started their studies together will be able to collectively work through the various stages of research and to finish together (Govender & Dhunpath, 2011:89). However, considerations of time and key phases during the conceptualisation of the cohort supervision, rather than registration dates may provide an improved measurement to monitor the achievement of key research outputs (Schulze, 2011:799).

Within an ODeL context, the completion time for a postgraduate qualification may differ from that of residential institutions (Manyike, 2017:8). It is therefore not advisable to link the structure of the cohort framework for an ODeL environment to completion times only. Rather, both time and key phases during the research process are to be considered when planning the structure (De Lange et al., 2011:18; Heeralal, 2015:94; Wichmann-Hansen et al., 2015:23).

While current cohort supervision frameworks propose face-to-face engagement that may involve a blended approach to use information and communication (ICT) tools to achieve some activities, the development and implementation of cohort supervision in an ODeL environment requires a further adjustment (Van Rooy & Madiope, 2012:159). Because of the distance education component, a technological infrastructure is required to support engagement, participation, dialogue, critique and communication. The structure may be based on the use of a combination of technology tools, so that a "pedagogy as practiced-in-action [be used] to improve supervision relationships" (Maor and Curie, 2017:3). More specifically, technology such as video calling, Skype, telephony, WhatsApp, MSN Messenger and Microblogging can be used to encourage dialogue and communication between cohort members (Gumbo, 2018:58).

Ensuring that a structured programme is followed and that technology is used extensively to support the execution of the structure in a cohort approach, it is required that multiple stakeholders become involved in the supervision relationship (Van Biljon & De Kock, 2011:988). Such multiplicity 'muddles' the defined boundaries found in apprenticeship supervision and calls for a fluidity of the roles and responsibilities of stakeholders involved in the cohort approach (Winberg & Winberg, 2018:103). What ties stakeholders together in a cohort pedagogy is the fact that they work "collaboratively towards developing research capabilities and supporting scholarly autonomy" (De Lange et al., 2010:27). Stakeholder roles and responsibilities are to be defined and re-defined according to the ultimate outcome of the cohort supervision process, to cultivate the achievement of research goals. Solutions and advice can, for example, be cascaded from the supervisors to students. The aim is to provide opportunities for students and supervisors to work at their own pace and develop scholarly independence (Van Biljon et al., 2011:166). In addition, when structuring a cohort supervision framework for a distance education environment, a highly

collaborative structure is required, where “task distribution is fluid and teams take different roles” (Winberg & Winberg, 2018:103). This encourages active engagement, which allows for individual meaning-making by different role players within the cohort supervision approach.

2.4.2 Constructing a cognitive presence in cohort supervision

A cognitive presence is required in a cohort supervision framework to provide opportunities for students to expand their research methodology knowledge, engage in research activities through scaffolded learning and participate in the processes of feedback and reflective practices to strive towards the achievement of research goals. As part of the structure of the proposed cohort supervision approach, the individuals engaged in the cohort are to set research goals and milestones that may be achieved during various phases of the supervision process (Glover, 2010:124). Achieving these goals and milestones require that supervisors and students participate in several activities such as workshops, presentations and feedback sessions to cultivate cognitive engagement. Learning opportunities may range from orientation and communication of expectations, to coaching, task support and expert input, as well as workshops related to various theoretical and practical topics (Samuel & Vithal, 2011:79).

Learning opportunities support conceptual scaffolding of the research problem and purpose, procedural scaffolding to structure the research design, as well as strategic scaffolding aimed at obtaining and interpreting the data to address research questions (Van Biljon et al., 2011:166). These scaffolding processes are in line with the suggestion by Wisker et al. (2007:311) that early learning conversations in the cohort establish the ground rules for the achievement of set research outcomes, followed by a focus on students’ development of the research product. The initial phase of orientation and communication of expectations is of importance for relationship development, as purported by Lee (2008:268), to develop quality relationships within the cohort, based on emotional intelligence. Manathunga (2007:208) suggests that power relationships between supervisors and students be considered as part of the development of quality relationships. The author argues that the importance of power relationships should receive particular attention, so that students obtain the freedom

to become independent researchers. Govender and Dhunpath (2011:94) explain that power relations between students and supervisors can increase tensions, which may negatively impact on students' progress. Holmes et al (2012:198) therefore suggest that a 'middle power' be embraced, which focuses on using creativity and credibility of students' research "as a catalyst and change agent through cooperation, collaboration and coalition building" to enhance relationships within the cohort supervision context.

Following a cooperative and collaborative approach, cohort content and research engagement activities are to be organised at specific stages in the research process to support scaffolded learning and balanced power relations (Garrison & Akyol, 2014:106). In the context of creating a cognitive presence through scaffolded learning, the term 'academic' is emphasised, because it refers to the development of knowledge based on systematic and critical analysis, dialogue and reflection with peers and members of the academic community (Wichmann-Hansen et al., 2014:19). The focus is on developing knowledge of theoretical and methodological approaches by using peer and expert engagement, in which "students learn with and from each other" (Agné and Mörkenstam, 2018:674).

Within the cohort, supervision thus provides students with opportunities to engage in empirical observations and feedback on their own work from multiple perspectives. Students are encouraged to take the lead and support each other through cooperative learning practices. Cooperative learning, founded on the principles of "learning together, academic controversy, group investigation and cooperative integrated reading and composition", is helpful, as peer learning supports and stimulates research activities (Glover,2015:125). As explained by Agné and Mörkenstam (2018:671), "skills needed to create something as complex as research, are sometimes communicated more effectively by peers". The fact that engagement encourages students at various stages of their research journey to support each other, stimulates the development of critical thinking, critiquing and reflective engagement. It also brings forth a more balanced power relation as creativity and collaboration act as change agents and catalysts between students and supervisors (Holmes et al., 2012:198).

Feedback and reflection are required to ensure that students can actively partake in the process of engaging in constructive critique (Burnett, 1999:49; Dysthe et al., 2007:303). Feedback, as well as reflection-in-action, has a strong relational component that cannot be disregarded in the cohort supervision context (Loureiro et al., 2010:170). Constructive peer and supervision critique and the opportunity to reflect and retort, provide a rich environment for active learning (Schulze, 2011:796) and the emancipation of students to become active members of the academic community (Samuel & Vithal, 2011:78).

Technology tools create opportunities for cognitive engagement, online supervision and social engagement (Garrison & Akyol, 2013:107). The use of the technological pedagogical content knowledge (TPAC) framework may be considered, to ensure the effective integration of the technology to support learning and teaching opportunities (Gumbo, 2018:56). In brief, technological pedagogical content knowledge is reliant on a combination of three key components: content knowledge, pedagogical knowledge and technological knowledge (Koehler & Mishra, 2009:62). Content knowledge is required to identify educational objectives, and pedagogical knowledge to postulate suitable tasks. Technological knowledge is important to identify e-learning tools required to ensure the execution of tasks to achieve the set learning outcomes (Jacobs, 2017:17). Using these tools, pedagogical knowledge can be applied to create scaffolded learning activities “since the use of Web 2.0 applications such as social networks, online discussion boards and peer sharing tools has become common in educational environments” (Picard et al., 2011:957).

2.4.3 Promoting a social presence through collaboration and engagement

Each cohort supervision approach reiterates the importance of relationships, group engagement, active inquiry in the learning process, dialogue, reflection and building communities of practice. These characteristics are also aligned with the theoretical constructs of Lee (2008:270-271) related to the importance of relationship building, enculturation and emancipation, to promote group participation to encourage students to develop as scholars.

The foundation of a strong social presence is dialogue, to create a critical exchange of ideas and opinions within the cohort. Dialogue is to be open and free; allowing for both oral and written feedback and reflection (Loureiro et al., 2010:157). De Lange et al (2011:18) explain that open dialogue can be achieved by encouraging learning between and within a community of novice researchers. Through seminars and discussions, students are given the opportunity to voice opinions, ask questions and learn from more knowledgeable others. The aim is to promote collaborative learning, which in turn encourages and fosters dialogue betweev multiple perspectives (Santicola, 2013:256). Various technologies (synchronous and asynchronous) can be used to encourage a participatory pedagogy, where ongoing dialogue, reflection and knowledge sharing may occur (Maor & Currie, 2017:14). Quality relationships are imperative, where “the student is enthused, inspired and cared for” (Lee, 2008:271).

As part of dialogism, the importance of communication requires emphasis, since it is through communication that transparency and reflexivity towards the completion of quality postgraduate research outputs are achieved (Manyike, 2017:5). Especially within a distance education context, effective communication between students and supervisors towards a strong community of practice is imperative, to provide a safe environment in which research outputs can be shared in a sensitive and respectful manner (Wichmann-Hansen et al., 2015:31). The community of practice encourages collaboration between and among students within a specific cohort, “but also collaboration and collegiality among cohort supervisors and between cohort supervisors and appointed supervisors” (Govender & Dhunpath, 2011:89).

According to Manyike (2017:5), a structure for a cohort supervision framework applicable to the ODeL environment requires that participants in the research and supervision process aim to create an environment conducive to academic prowess and emancipation to become part of a research community of scholars. This implies that dialogue and communication within the community of practice support students beyond the immediate achievement of milestones, to cultivate a much-needed community of researchers (De Lange et al., 2011:27). Manathunga (2009:165) emphasises the importance of creating an “intercultural contact zone” which makes provision for cultural differentiation in cohort supervision practices. Winchester-Seeto et al., (2013:619) explain that different cultural traditions between students and

supervisors may lead to difficulties in promoting a social presence within the cohort supervision group. This is reiterated by Jordan, Bovill, Othman, Saleh, Shabila and Watters (2014:14) who argue that cultural differences influence active engagement, since many students in developing countries see dialogue and co-creation of knowledge as unfamiliar.

Within the South African context, Beets and Le Grange (2005:1198) report that cultural differences often mean that students are reluctant to voice an opinion opposed to a person in an authoritative position. Such persons may include supervisors but also more experienced students within the cohort group. Winchester-Seeto et al., (2013:620) state that other cultural differences that may impede negatively on collaboration and cooperation, include a reluctance to open up to unfamiliar people, differences in learning styles and approaches to solve problems, differences in expressing opinions, differences in cultures related to the conduct of research, and gender differences. Beets and Le Grange (2005:1205) postulate that within the African context, principles of ubuntu and ukama need embracing to encourage cooperation and collaboration. Through ukama students may develop interdependent relations to strengthen their knowledge construct. Ubuntu may be applied to promote sharing, compassion and respect.

2.5. A proposed cohort supervision framework

Borrowing from existing literature, a four-stage cohort supervision framework for an ODeL environment was proposed in Figure 2.2. The framework comprised of the following stages: proposal development; data generation; data analysis and interpretation; and finalisation and scholarly engagement. Although these stages encourage the achievement of set research milestones by students focusing on similar outcomes, the framework also supports inter-stage collaboration to encourage and enhance peer learning. Even if students may be involved in their own research stages, a fluidity needs to be maintained, where students are given opportunities to engage with students from other stages to encourage peer learning.

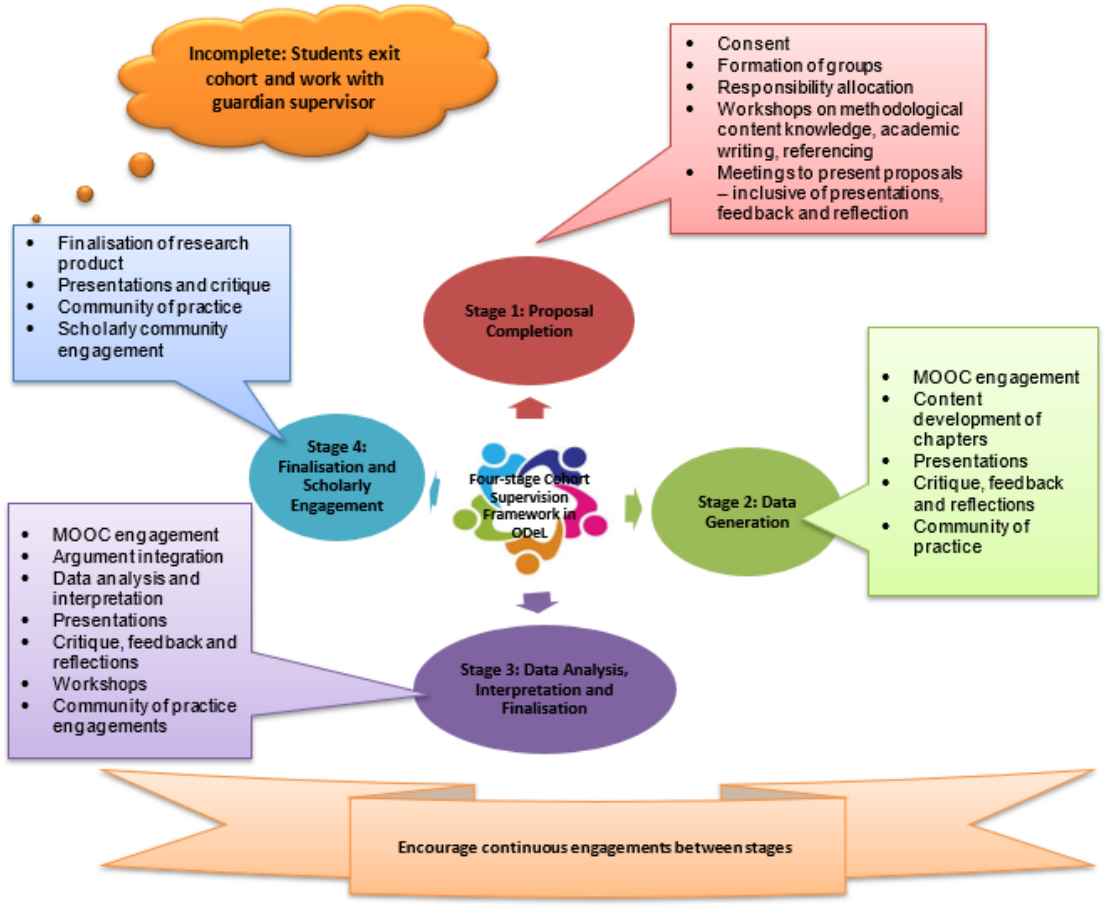

Figure 2.2: Four-stage cohort supervision framework in ODeL

(Based on Samuel & Vithal, 2011:79; De Lange et al., 2011:18; Wichmann-Hansen et al., 2015:23)

The focus of the *first stage* is to create an infrastructure where students are heavily dependent on the guidance and assistance of supervisors (Choy et al., 2015:27). This dependency is required to set clear research goals, contextualise the skills and knowledge required to complete the postgraduate degree and to identify themes and topics that are researchable and of value within an institutional, as well as a societal context. Systemic support in this first stage is imperative to ensure that students obtain the administrative and technological support necessary to complete the registration process and to become aware of the workings of the cohort supervision approach (Fynn & Janse van Vuuren, 2017:190).

Since participation in the approach is to be voluntary (Maor & Curry, 2017:9), students and supervisors may be approached by a cohort leader to obtain consent to be included in the cohort group. The cohort leader fulfil a strategic and leadership role to plan, implement and evaluate the cohort supervision process (Van Biljon et al., 2014:169). This role includes to establish the context of the cohort, based either on areas of interest, or research phases, and to work collaboratively with students and supervisors to create a cohort group that support and encourage each other. The apprenticeship approach can be combined with the cohort supervision approach, where a guardian supervisor per student is appointed to guide a more fluid shift towards a collaborative approach (Samuel & Mariaou, 2014:517). The guardian supervisor serves and encourages individual students to complete their research, by offering emotional and expert support (Wisker et al., 2007:309). In terms of the size of the cohort, De Lange et al. (2011:18) recommend that the ideal number of students is "between 12 and 18 with three to four supervisors" per cohort.

Once a cohort has been established, the cohort leader informs students and supervisors of workshops and regular meeting schedules. This can be done through a learning management system, as well as Microsoft Outlook's calendar function. Linked to the distance education environment, the first stage is also used to connect cohort group members online and provide resources via information technology tools (Van Biljon et al., 2014:169). This supports the view of Loureiro et al. (2010:152) who propose that "potentialities related to ICT in distance education may increase collaboration to enhance research supervision processes". Gumbo (2019:99) is also of the opinion that technology is crucial in supervision by explaining that supervision "requires a good mixture of the use of technology and the human side of those engaged". Added to that, both synchronous and asynchronous technology may be used to encourage supervision practices and engagement within the cohort supervision process (Picard et al., 2011:957).

Workshops are required to enhance the knowledge of students and prepare them for the research process (Winberg & Winberg, 2018:95). Such workshops, either offered inhouse or through collaborations with other experts, are imperative (Agné & Mörkenstam, 2018:672). During the first stage, workshops may be organised to assist students with identifying research problems, deciding on methodological pathways,

enhancing academic writing skills, referencing and compiling research proposals. In addition to workshops, online meetings can provide students with opportunities to present their ideas pertaining to their research and progress on their research proposals. In an online environment, workshops and meetings can be facilitated using video conferencing, Skype and Facebook live streaming, or tools such as Elluminate, Zoom or Wimba, that aim to share presentations and life chats (Maor & Curry, 2017:3). Similarly, these tools can be used to provide feedback on students' presentations, where supervisors as well as peers comment and assist each other through research proposal writing hurdles. Reflection, either through blogging and / or sharing experiences in online meetings, can assist students in assessing their progress and determine areas where more improvement may be required (De Lange et al., 2011:24).

Of importance is that relationships of trust be established within the first stage of the cohort supervision process. Samuel and Mariaye (2014:515) explain that since students and supervisors will expose themselves to others within the cohort, trust is imperative to ensure that collaboration occurs. Mutual trust is imperative so that the cohort can take on more difficult topics throughout the remainder of the cohort supervision stages (Teitel, 1997:69). Trust can be developed through group interactions and individual support activities (Wisker et al., 2007:307). Trust implies safety, sensitivity and respect (Dysthe et al., 2007:311), which links closely to the principles of ukama and ubuntu. Robertson (2016) states that significant effort is required to establish trust. Such trust rests on establishing clear, agreed and effective communication, based on mutual respect and reciprocity. In cohort supervision, such trust relates to the interdependent social context that is developed among and between students and supervisors. Using technology tools to create trust requires engagement in virtual learning sets to promote group discussions, individual feedback, presentations and constructive argumentation to expand knowledge constructs. The crux of encouraging trust relationships in an online environment is to create a place where people feel comfortable, trusted and valued (Donnelly, [s.a.]:199).

In the *second stage* of data generation, the emphasis is on assisting students to complete key chapters of the research output and to strengthen their community of practice relationships. The emphasis is on support and encouragement towards

progression. Completing chapters towards a research dissertation or thesis requires access to information, as well as additional knowledge on how to write various research chapters. In terms of the first, technology tools such as a website or an online cloud space can be created, where supervisors and students share interesting resources (Maor & Currie, 2017:14). The value of creating such a collaborative space is that students learn to support each other through their community of practice. Through reference manager tools such as Mendeley or Refworks, students can create reference lists and share these through social bookmarking.

In addition, students in a cohort can be encouraged to participate in massive open online courses (MOOCs), approved by cohort supervisors (Bates, n.d.). During stage two, MOOCs should focus on key topics related to theoretical / conceptual frameworks, writing a literature review and research methodologies. By encouraging students to partake in MOOCs, the scaffolded approach to learning continues where opportunities for learning is created as 'building blocks for students reaching new levels of competence' (Schulze, 2011:786).

Based on knowledge obtained through MOOCs, students may be encouraged to develop and share their research outputs with the cohort during scheduled presentation meetings. Before presentation meetings, students may submit progress reports to track the achievement of their milestones. To encourage emancipation, students and supervisors may read through and provide input into the research outputs of students within the cohort (Agné & Mörkenstam, 2018:671). Because this may be a cumbersome task for students in a cohort with many participants, Burnett (1999:48) proposes that "two other students in the cohort provide feedback". Ensuring that this process remains objective and that all students benefit from this practice, clear guidelines are required to provide students and supervisors within the cohort with information on how to present feedback (Wichmann-Hansen et al., 2015:25). From a dialogue point of view, feedback must involve active participation, discussions and reflection from students (Dysteh et al., 2007:303). Reflection and questioning are essential to enhance the quality of proposals (Loureiro et al., 2010:170). The success with which feedback is offered and influences the progression of research outputs is dependent on the relationships between members of the cohort. Positive relationships may be maintained through open and honest communication (Heeralal, 2015:93).

Technology tools used to support key components of stage two may vary from the use of Whatsapp or ooVoo, to instant messaging and communication via video calling and online communication tools, such as Facetime and Viber to encourage dialogue and communication (Gumbo, 2019:101). Chapters, analyses and interpretations of findings can be shared in the online space through tools such as Teams, Google docs, Wikis, Dropbox or OneDrive. To comply with copyright and plagiarism policies of higher education institutions, students need encouragement to use anti-plagiarism detection software such as Turnitin or Plagiarism checker (Maor & Currie, 2017:3).

The focus of *stage three* is to assist students in analysing and interpreting the data. MOOC engagement may be encouraged, so that students gain knowledge about specific data generation and analysis tools, related to research approaches. Students can, for example, learn to use data analysis tools such as ATLAS.ti and SPSS via MOOCs (Gumbo, 2019: 103). Bates (n.d.) argues that “MOOCs have more academic rigor and are a far more effective teaching methodology than in-house teaching”. This continuation of the learning process is imperative to prepare students to complete the final stages of the research process where ‘each activity is used as a scaffold to reach the goal of producing a better-quality product’ (Samuel & Vithal, 2011:83).

Though Wisker et al. (2007:315) are of the opinion that during stage three students need to become self-directed and self-regulated, McKenna (2017:463) states that due to complications in completing the final stages of the research, the relationships between members of the cohort ought to be closer than before. Dialogue remains imperative and becomes students’ major form of support (Dysthe et al., 2007: 302). Dialogue via the community of practice will help students to develop as autonomous agents, who can confidently communicate their views and opinions within the safety provided by the cohort community.

The *final stage* focuses on assisting students to complete the final research product and to become members of the disciplinary community. Enculturation and emancipation require attention, so that students can become researchers and knowledge producers through a range of activities, including peer reviewing, oral presentations, research defence reflection and the final completion of the research product (Picard et al., 2011:957). The functional element of the typology of the

supervision theory of Lee (2008:270) is particularly important to support the conclusion of the research process.

It provides a set of tasks that a student should complete towards the finalisation of the research product, including monitoring the progress in compiling the research product, ensuring editorial and language alignment with institutional guidelines and compliance with institutional plagiarism policies. Through using cloud storage spaces where chapters can be shared, feedback provided and progress monitored, a collective space can be created where participants can share their progress. Supervisors within the cohort are responsible for providing additional support and assistance to enable and encourage students to complete their research by integrating chapters and developing overall arguments (Rout et al., 2015:276). This responsibility often falls on the guardian or apprenticeship supervisor, who may be required to work independently with a student to complete the final research product. Implementing a cohort supervision approach alongside the traditional apprenticeship approach, “opens up other voices”, according to De Lange et al. (2011:27), that encourage critical exchange and dialogue to empower students. It is also important to note that for students who are unable to follow the structured cohort approach to completion, an exit option needs to be available, where they work individually with assigned supervisors to complete their studies.

Throughout the stages, but particularly in stage four, students require nurturing to become active members of a scholarly community. This can be achieved by encouraging students to engage in the scholarly community via presentations on postgraduate forums, by using Skype, video conferencing or Facebook live streaming. Students can prepare presentations of their research for conferences and submit articles to accredited journals, to receive acknowledgement as scholars in their discipline / field (Winberg & Winberg, 2018:104). By encouraging students to engage in the scholarly community, a much-needed community of researchers in South Africa will be cultivated (De Lange et al., 2011:27).

2.6 Concluding remarks

The article proposed a four-stage cohort supervision framework that can be applied within an ODeL environment, to offer support to postgraduate students towards the completion of their research. The foundation of the proposed framework was to assist postgraduate students to achieve key milestones during the research process by following a structured approach, where students are systematically guided through a process of scaffolding. The focus is on providing activities and support that would encourage postgraduate students to remain motivated towards the completion of their research outputs. The first stage assists students in completing their proposals, whilst the second to fourth stages focus on key activities to offer support during the actual research and its completion. Together, the four stages aimed to provide a structure that enables students to work diligently and with support, to complete their research goals.

In an ODeL environment, where face-to-face engagement is especially limited, the use of technology is required to promote communication, dialogue, reflection, and participation in communities of practice. Technology is important to create spaces that are conducive for learning, engagement, dialogue and reflection. Such spaces can utilise synchronous and asynchronous technology to provide advanced opportunities for engagement and collaboration.

More research is required to test and streamline the framework to measure its effectiveness. This requires time and resources “if the framework is intended to gain interest and wider efficiencies in supervision” (Choy et al., 2015:21). Further research pertaining to the implementation of the four-stage cohort supervision framework is needed, to investigate its usefulness to provide extensive supervision assistance to postgraduate students enrolled at an ODeL institution.

Chapter 3: Creating sustainable postgraduate learning environments through cohort supervision at an open distance e-learning university

Abstract

Postgraduate supervision at an open distance e-learning (ODeL) university requires a shift from the traditional apprenticeship approach to one that supports the creation of sustainable learning environments. Through cohort supervision, an environment can be created where postgraduate students receive the necessary attention, support and guidance to complete their research goals. As spatial, temporal and communication barriers limit the engagement between supervisors and students in distance education, varied technological tools can be used to create supportive environments where cohorts can meet, engage and communicate on research matters. In this article, we consider the creation of sustainable learning environments, with cohort supervision. Interviews with experts shed light on conceptualising cohort supervision towards sustainable learning environments. Findings indicate that cohort support may be created through induction, workshops, continuous feedback sessions, presentations and discussions that are presented in a structured manner. The focal point is the creation of a cohort with similar goals and a well-formed identity that can function collaboratively as a community of practice, to provide a supportive learning environment for all involved.

Keywords: cohort supervision; sustainable learning; communities of practice; dialogism; empowerment

3.1 Introduction

The environment and context of offering postgraduate supervision have changed considerably (Van Biljon & De Kock, 2011;990). Globally, political and economic factors have shaped postgraduate research and, by implication, postgraduate supervision (McCallin & Nayar, 2013:63). Massification, marketisation and pressure to increase throughput rates are factors that complicate postgraduate supervision (Van Biljon, Pilkington & Van der Merwe, 2019:1). In addition, changing policy directives, internationalisation, technological advancements and budget constraints have further combined to place growing pressure on postgraduate supervisors (Swarts, 2017: 230). In South Africa, postgraduate student enrolments have increased by 65% between 2002 and 2012 (Council on Higher Education, 2016:82). The number of assigned postgraduate students has increased from approximately seven master's and doctoral students per supervisor in 2005, to approximately 12 in 2010 (Samuel & Vithal, 2010:77) and the number continues to rise (Mouton, Boshoff & James, 20145:3).

Within an open distance e-learning (ODeL) university, the increase in postgraduate student numbers and the diversity of research knowledge and competencies have culminated in additional challenges, since supervisors often cannot support and engage with students in physical contact sessions. The burden on supervisors at an ODeL institution often results in poor retention and low throughput, since the apprenticeship supervision model utilised by most supervisors does not offer sufficient support to guide already underprepared students to complete their postgraduate research (Schulze, 2011:784; Gumbo, 2019:108). Manyike (2017:1) explains that the success of postgraduate supervision is dependent on the relationship between supervisors and students, especially in terms of the planning and coordination of research projects.

Because supervision support is often the determining factor in enhancing students' success rate, supervision approaches require adaptation by supervisors to offer opportunities for engagement and collaboration to motivate students to complete their postgraduate qualifications (Bireda, 2019:18). Yet not all supervisors are adequately prepared to meet these expectations. Heeralal (2015:89) argues that supervision of postgraduate students needs to be altered so that students can benefit from the entire

postgraduate research process. Mahlomaholo (2014:176) proposes that a supportive learning environment be created to expand supervision support to postgraduate students. As the creation of such a supportive learning environment does not happen haphazardly, Van Biljon et al. (2019:2) propose that cohort supervision in an ODeL environment be explored. The research question in this article is therefore:

> *What are the key dynamics to consider in the application of cohort supervision at postgraduate level at an ODeL university?*

In order to answer the question, I began by reviewing relevant literature on cohort supervision and used this information to design an interview guide. I analysed the data from the interviews and identified key dynamics that one may consider in the application of cohort supervision in an ODeL context. In the article, I present the key views of participants related to the key dynamics which encompass the motivation for becoming involved in cohort supervision and the formation, planning, execution and building of communities of practice. I conclude the article with the possible future and expanded use of cohort supervision in an ODeL environment.

3.2 Literature review

Cohort supervision refers to a community of students and supervisors with a mutual commitment that may be simultaneously beneficial to all members of the group (Santicola & Morris, 2013:253). Cohort supervision helps participants to remain motivated, continue to comment on work in progress, and receive critique on their research, which may increase the momentum to complete research outputs. However, cohort supervision in an ODeL context is influenced by temporal, spatial, social, educational and communication distances between the supervisor and student (Heeralal, 2015:96). Because of limited physical contact, the supervisor-student relationship in a distance education environment becomes the critical success factor in the completion of postgraduate research projects (Van Biljon & De Villiers, 2013:1443).

Technology may be used to create a sustainable learning environment wherein multiple teaching, learning and engagement strategies can be employed to encourage

fluid open learning through the application of cohort supervision (Mbatha & Naidoo, 2010:65, Van Rooy & Madiope, 2012:159; Gumbo, 2019:93). Cohort supervision in an ODeL context requires of supervisors to create opportunities, through the application of various technological tools, where support, assistance and guidance can be provided in such a way that it will encourage students to form strong networks, which may serve as support structures to achieve the common goal of completing their research outputs (Manyike, 2017:3).

Being part of a cohort provides a supportive network, eliminates feelings of isolation, and creates opportunities for academic rigour through critique and feedback opportunities (De Lange, Pillay & Chikoko, 2011:17). Cohort supervision allows for multiple engagement opportunities as well as engagement with multiple perspectives to assist students to achievement research outputs (Van Biljon & De Villiers, 2013:1447). As stated by Wisker et al. (2007:305):

> ”*Students who are able to engage in problem-solving dialogues with their supervisors and with peers are likely to develop as collegial equals, empowered to undertake and maintain momentum within their own research…. and then be able to take research into their lives…[to] become members of the research community of practice*”.

When students connect with one another through cohort supervision, they can inform and motivate each other. They learn from mutual strengths and mistakes. As an alternative supervision approach, cohort supervision offers opportunities for dialogue, collaboration and co-learning, where the burden of supervision is not carried by one supervisor alone, but by a cohort of people who share the same goals. Mahlomaholo (2014:176) explains that through assimilation, accommodation, interaction and socio-dialogism, innate potentialities and opportunities for the cohort to connect on various platforms (connectivism) play a significant role in supporting students through the research process by creating sustainable learning environments. The emphasis is on treating students as equal participants on the intellectual journey. Supervisors and students become co-learners, so that knowledge construction through the cohort process does not become static but caters for fluidity. The epistemological focus is on creating spaces for engagement and critical discourse, where learning is promoted

through exploration, engagement, dialogue and the creation of an environment conducive to supporting the achievement of research goals (Nkoane, 2014:700).

3.3 Research design and data collection

A bricolage design within an interpretivist construct was used to conduct the study. The emphasis was on identifying dynamics that would encourage the conceptualisation of using cohort supervision to create a supportive learning environment for postgraduate students. From an ontological perspective, interpretivism is relevant, since the reality of exploring dynamics that may influence cohort supervision to create a sustainable learning environment is subjective and created by human interaction (Du Plooy-Cilliers, 2014:34). Interviews with key stakeholders who apply cohort supervision as an alternative supervision approach contributed towards the epistemological construct, since knowledge shared by interviewees became an important source of knowledge about dynamics to consider.

Linked to the bricolage design, a multi-perspective and multi-layered approach towards cohort supervision proposed by interviewees, enabled the identification of key dynamics to be considered in expanding the use of cohort supervision in an ODeL context (Rogers, 2012:1). Semi-structured interviews promoted the exploration of key questions relevant to cohort supervision, and afforded opportunities to ask related questions to clarify responses from participants (Williamson, 2013:361).

I used a combination of information-oriented and snowball sampling to identify potential participants. Shanks and Bekmamedova (2013:174) explain that during information-oriented sampling, participants with in-depth knowledge of cohort supervision are to be identified. I selected participants based on key articles available in the literature and e-mailed invitations to the prospective participants. Thirty-one (31) invitations were sent out. Nine authors responded, indicating either their willingness to assist or to recommend alternative participants with more experience. I applied snowball sampling to expand the number of participants included in the research (Creswell & Creswell, 2018:185). During initial interviews, I asked participants to recommend other possible individuals that may add value to the research. While conducting the interviews, I was mindful of saturation. In total 13 interviews were

conducted. Participants included cohort supervision experts from the University of South Africa (n=3), the University of Kwazulu-Natal (n=1), University of the Free State (n=1), Nelson Mandela University (n=1) and Walter Sisulu University (n=1). Six academics from international institutions from Australia (n=1), Belgium (n=1), Sweden (n=2) and the United Kingdom (n=2) participated. Three national and three international participants had prior experience in the application of cohort supervision in a distance education context.

In total 14 key questions were asked during the interviews. I conducted a thematic analysis to identify key topics cited by authors in the literature. I asked questions related to the motivation of participants to engage in cohort supervision, the process of planning and executing cohort supervision, their views on support required, relationship management, student support, student engagement, and whether they would recommend the use of cohort supervision to other supervisors.

In terms of this research methodology, generalisation is not possible, but was also not the focus of the research. Linked to the bricolage design, the focus was on obtaining insight from individuals that may enrich understanding and to propose evolutionary insights about dynamics to consider in the conceptualisation of cohort supervision in an ODeL context. Trustworthiness of data is imperative to make insightful conclusions. This required the collection of data that was sincere, credible and relevant to the research.

Sincerity requires honesty and transparency in the research process. Sincerity was achieved by presenting all participants with the consent form and interview guide prior to the interviews (in line with the recommendations made by Nowell, Norris, White and Moules, 2017:2). This enabled the participants to familiarise themselves with the thematic scope of the research. Credibility was ensured through the transcription of all the interviews. Meticulous transcription and record keeping ensured the relevance of the findings through the analysis of the richness of the data collected (Williamson, 2013:14). Trustworthiness was further ensured by keeping the identity of participants, the institutions where they work or any personal information shared during interviews, anonymous. Alphabetical codes were assigned to protect the anonymity of each participant. Interviews were transcribed by using MS Office Word processing software

and a thematic analysis was conducted by using a pre-set closed code structure associated with the questions asked during the interviews. Saldaña (2016:70) refers to this as theme coding, where the coding harmonises with the ontological and epistemological stance of the research. Using research questions as the foundation of the coding structure suggests an exploration of participant perceptions around themes associated with the research. The application of a conventional content analysis process provided me with the opportunity to identify codes linked to research question themes, which formed the initial coding scheme. The emerging schemes were converted into a smaller number of theme categories. A conventional content analysis process was thus followed. Hsieh and Shannon (2005:1279) regard a conventional content analysis as appropriate, when existing literature on a phenomenon is limited and an inductive process is used towards theme development. Following a recursive process where I moved back and forth between the transcribed data obtained during the interviewes and codes associated with the research questions, I could identify and describe dynamics to support the conceptualisation of cohort supervision in an ODeL environment. The value of using conventional content analysis flows from obtaining direct information from participants in the area of research that may lead to improved suggestions for practice and future research.

3.4 Key findings and discussions

Following the conventional content analysis and theme coding of responses to key questions, six main themes could be identified, namely:

- motivation for engaging in cohort supervision;
- formation of cohort groups;
- planning for the cohort supervision process;
- executing the cohort supervision process;
- building communities of practice; and
- views about future and expanded use of cohort supervision in ODeL.

3.4.1 Motivation for engaging in cohort supervision

There were various reasons why participants originally decided to embark on cohort supervision practices. Examples included providing structured programmes, where supervisors and students can collectively contribute towards the achievement of key research goals (participants A, C, D, I), managing increased student numbers (participants A, K), reducing feelings of isolation (participants A, K. L) and encouraging the creation of supportive communities of practice (participants C, I, J). Deciding to embark on cohort supervision also stemmed from a need to improve supervision capacity through the inclusion of different viewpoints about research themes and projects (participants A, D, G) and to provide students with the necessary emotional support and motivation required to succeed in their studies (participants E, F). Individuals who feel emotionally supported often produce better quality academic work (Maor & Currie, 2017:11). One participant responded: '*I think that the emotional part is underestimated'* (participant L).

Since relationships between students and supervisors have changed because of generational and socio-cultural differences, postgraduate students no longer rely only on the supervisor for emotional support, but can obtain such support from the group that is involved in the research process, since '*by making use of a group of people, you make sure that students do receive support from different types of colleagues and peers*, *where learning from those that are ahead of you may be useful as students still learn more through peer engagement'* (participant D). Cohort supervision is used to form groups that '*look at different aspects of a particular research issue and thereby growing the knowledge around the related topics into a coherent body of knowledge and understanding*' (participant B). In cohorts where students with multiple topics are engaged, the sharing of resources may be less likely, '*though students do share information when they come across an article that relates to the research of another*' (participant A).

The importance of considering cohort supervision also has a philosophical foundation to promote Africanisation and decolonisation. The apprenticeship supervision approach is based on the so-called Oxbridge model, to which universities in South Africa are '*clinging, with the irony that the colonial masters from whom we have taken*

this, hardly use it anymore' (participant C). This view supports the notion of Nkoane (2014:703) that it is time to develop an Africanised pedagogy for postgraduate supervision, grounded in communities and cultures that '*focus on deconstructing dominant discourses to consider alternative supervision practices that support change and transformation'* (participant L). This view is reiterated by Grant (2010:4) who explains that in a post-colonial environment, as applicable to South Africa, supervision practices need to steer away from traditional Westen practices, to cater for social structures and cultures within the context in which the supervision activities take place. Linked to the views of Manathunga (2009:165), cultural considerations are important, so that cultural differences may be identified that will influence viewpoints, research perceptions, research philosophies and communication exchanges.

Current supervision practices rely too heavily on the expertise of a single supervisor, which according to Grant (2014:4), is a typical Western notion of supervision; by placing a burden on individual supervisors to supervise students successfully through the entire research process (participants A, D, G, I. K). In a cohort '*there are lots of opportunities to talk to each other and get feedback from each other*' (participant C). Utilising opportunities for active cohort engagement support the principle of ukama, where interrelationships encourage learning knowledge development (Beets and Le Grange, 2005:1198). Younger, more inexperienced supervisors from different cultural backgrounds receive an opportunity, through cohort supervision, to learn and expand their supervision skills (participants J, F). This is important because supervisors at South African universities are aging, with not enough younger African academics coming through to become senior academics (Council on Higher Education, 2016:299; Cloete, Mouton & Sheppard, 2015:10). The need to encourage inexperienced academics to partake and learn from the cohort programme is related to risk management: '*There is always a backup, so there is intensity in the work and students feel that they are supported to prepare for milestones*' (participant B).

Another possible advantage of embarking on cohort supervision could be time and resource saving (participants H, M). Cohort supervision may not reduce workload pressure on supervisors, but it can reduce duplication and therefore save time, since information shared in the group need not be repeated to individual students (participants I, J) (Burnett, 1999:50; Bitzer & Albertyn, 2011:881). Workshops and

presentations can be done collectively, which does not place an extra burden on a single supervisor to engage with students on a one-on-one basis: '*Instead of saying the same thing over and over again to each student individually, we could say it to the group and then individual sessions could be used to reinforce and focus on other particular issues'* (participant H). This is '*collective academic supervision where the focus is on working with diversity didactically in cohort supervision*' (participant L).

3.4.2 Formation of cohort groups

Participants provided a variety of perspectives regarding the formation of groups, namely '*The formation of groups when they register may be applicable in certain instances'* (participant C), but not in others. '*The focus is on common research themes'* (participant I), or a '*mixed group with different themes*' (participant A), what may be called a '*fruit salad'* (participant K), being supervised by a group of supervisors. The views of participants were similar to those of authors in the literature, who state that the formation of a group of students may comprise a group of students with one supervisor, (Wichmann-Hansen, Thomsen & Nordentoft, 2015:19), or the inclusion of a number of supervisors and students (Wisker et al., 2007:301).

The formation of cohorts can and should take on different formats (participants B, F). This is in line with the suggestions of Choy, Delahay and Saggers (2014:21) that cohort approaches emerge from the benefits of founded collaboration and collegiality. Irrespective of how cohorts are formed, effective cohort supervision is directly related to the intellectual and emotional support that students and supervisors provide to each other (participants J, K, L). Postgraduate research '*is a very isolating experience and a cohort of students and supervisors is important to keep up each other's momentum and good spirits*' (participant K). The emphasis is less on the number of supervisors involved, than the fact that the cohort is required to engage and work collaboratively to maintain momentum, remain motivated and support each other through the research process. Apprenticeship supervision was still recommended alongside the cohort supervision (participants B, C, D, E, J, K), where the '*cohort ran alongside the apprenticeship model, so that staff gain support and guidance as a result of that as their own kind of apprenticeship to be supervised'* (participant H). This refers to having a guardian supervisor, whose role it is to supervise his / her own students and act as

an additional supervisor to others in the cohort (Wisker et al., 2007:303). A cohort has '*a defined long-term membership, share a common goal, engage in common learning experiences, follow a structured learning schedule and form a network of learning relationships*' (participant B). The formation depends on creating learning environments that can support progression, reduce academic isolation and promote community engagements that are beneficial to students within the group (Agné & Mörkenstam, 2018:669).

As part of the formation of cohorts '*it is important that students be made aware that they will form part of a cohort group when they register'* (participant A). Once the cohort has been established, '*students should be made aware of key milestones and due dates within the cohort programme that they need to adhere to'* (participant K). '*This can be done by compiling a calendar outline for the year with set due dates and timeframes indicating cohort activities*' (participant J), or '*through an application (app) which will track the progress of students and make them aware of due dates and targets to achieve'* (participant B). Commitment from students to engage in the cohort is of equal importance, since *'students should understand from the start what is required of them'* (participant L). '*Agreements or contracts with students can formalise the commitment*' (participant F).

3.4.3 Planning for cohort supervision

Participants were asked to comment on the process of planning for cohort supervision. All participants commented on the importance of planning prior to student enrolment. Particularly, '*planning and structure is of the utmost importance. You need to structure the getting together, you have to structure the timeframes and you have to structure the communication that takes place'* (participant M). Such a view is in line with suggestions by various authors that a structured format of cohort groups be applied (De Lange et al., 2011:18; Van Biljon & De Kock (2011:988). Structure can ensure that the cohort can move simultaneously through the research process and participants can support each other in the achievement of specific milestones. Bitzer and Albertyn (2011:881) explain that structured planning and sustained coordination are imperative in cohort supervision to ensure quality, accountability and sustainability.

The problem is that '*one does not always know how many students will enrol, which complicate[s] the planning process'* (participant A). For this reason, it was suggested that '*even within the planning process, opportunity for spontaneity must be created'* (participant D). Opportunity to adapt the formal structure needs to be allowed (De Beer & Mason, 2009:217). This conflict between structured planning and spontaneity can be overcome if the general outline of the cohort supervision approach is planned, and additional opportunities created for engagement outside the formal structure: '*So you plan the whole journey, thinking about different stages like candidature, proposal completion and completion of different stages but you also consider how engagement can occur outside the formal structure'* (participant G).

Proper planning is also important when you include inexperienced supervisors in the cohort: '*Planning is imperative with supervisors who have not done cohort supervision before because they need to understand the process as well as how feedback is given to students'* (participant I). It is important to explain the cohort supervision process to all the supervisors in the cohort, so that they are aware of their roles and responsibilities to provide varied perspectives and scrutiny of students' work and also to assist in taking responsibility in the execution of key activities, such as workshops and group sessions (Samuel & Mariaye, 2014:561). If these roles are not clearly defined, and the commitment of all supervisors involved in the cohort obtained, their involvement may damage relationships and the success of the cohort programme. For example, '*a colleague was asked to facilitate a session for which he /she was not sufficiently prepared, which resulted in complaints from students as they felt that they did not receive the required guidance to meet the milestone set for them'* (participant H). Such commitment is imperative to ensure that students are treated with sensitivity and respect (Choy et al., 2015:22).

Additional questions related to the planning phase required that participants focus on the type of support they need when planning for cohort supervision. Participants commented on the need for administrative and ICT support. In terms of administrative support, having an administrative staff member or secretary responsible for bookings of venues or video conferencing facilities, placement of students, informing students of upcoming due dates or tracking student progress, removes that burden from the cohort supervisors: '*It is a lot of work to plan and organise cohort supervision activities;*

it takes a lot of time and effort to get the cohort together and organised and getting things out of them' (participant A). This echoes the views of Van Biljon and De Villiers (2013:1453) and Manyike (2017:7) that administrative support is required to assist students with their studies, the planning of due dates and the regular submission of their work. '*Administrative support is imperative in ensuring effective records management of all student submissions, inclusive of plagiarism pledge submissions, ethical clearance submissions and final document checks before examination submission*' (participant A).

The need for ICT support and assistance becomes a priority when a hybrid or distance education model is followed (participants B, F, J, K). ICT support is required to ensure that the video links are working, that Smartboards are active and that sessions are recorded and made available to other students asynchronously. Making cohort sessions available to all students is imperative to encourage dialogue between supervisors and students (Donnelly, 2013:360). In instances where students are required to present their work and progress towards milestones, ICT support is necessary to ensure that students are able to do their online presentations to the supervisors and other members of the cohort: '*I need to know that when technology give in, I have a high-tech person standing by to sort the stuff out'* (participant K).

Key to ensuring the successful planning and execution of a cohort supervision group is to have a person in charge: '*You need someone to hold it'* (participant C). '*This person must be organised and passionate*' (participant K), as *'it is that passion which sparks interest in the cohort and motivate the continuation of the process'* (participant H). A key person ought totake responsibility for the planning and execution of the cohort supervision process. This person is responsible for not only the planning but also providing support and assistance to supervisors and students during the cohort to communicate, interact and support one another (Wisker et al., 2007:309; Van Biljon & De Villiers, 2013:1455; Heeralal, 2015:99).

3.4.4 Executing cohort supervision

When it comes to the key activities to include in the cohort supervision programme, participants had differing views. The reason for this relates to the structure of the

qualification and the mode of delivery. In a distance education environment much more time, energy and effort are required to structure cohort sessions that will encourage engagement from members (participants A, B, C, J). The literature suggests that specific activities are to form part of a cohort supervision approach, irrespective of the mode of delivery. These may include supervision groups, student colloquia, individual supervision sessions, workgroups to share ideas and transmit information, self-help groups to provide emotional support, seminars, and oral examinations to present research and obtain feedback (Dysthe, Samara & Westrheim, 2007:299; Wisker et al., 2007:309; De Lange et al., 2011:18). Irrespective of the activities included in a cohort supervision programme, *it 'cannot be copied'* (participant C). '*The uniqueness of members of the cohort, as well as its purpose and mode of delivery must be considered to determine the structure and format of the cohort supervision'* (participant J).

As a starting point, and to build supporting relationships, an induction programme is required where the students and supervisors involved in the cohort clarify roles, responsibilities, expectations, opportunities and assumptions: '*Sometimes they come with assumptions that we will edit every piece of work and we have to say no, that is not our role*' (participant B). '*During the induction, the different phases of research should be explained so that students understand the research journey'* (participant G). Initial development activities such as induction assist groups to bond and help students in collaboration with others to set achievable learning goals.

A series of workshops and seminars will prepare and assist students to achieve milestones (Glover, 2010:125). '*Such seminars and workshops may focus on improving academic writing skills, strengthening knowledge of research methodology and even data analysis and interpretation'* (participant M). Various workshops are required to develop knowledge and skills, including writing skills, research methodology knowledge and time management skills (Schulze, 2011:799). It is also important that provision be made for reflective practices (Glover, 2010:126). '*Reflection is core to cohort supervision, so members of the cohort can consider the emotional and intellectual growth and support that is taking place and what will be needed in future to further support each other*' (participant E). In instances where students are required to present their work for input and critique*, 'mock' sessions*

should be organised with peers so that students gain experience and insight into questions that may be asked to clarify the scope and focus of their research' (participant H).

Students find it helpful to gain feedback from their peers '*as it helps them to compare notes and give them opportunities to learn'* (participant H). During the seminars and workshops, '*time should be set aside for writing and reading clubs, to strengthen academic writing and critical analysis skills*' (participant C). Asking students to critically read and comment on articles or the work of others '*encourage them to look at the writing, because in fact, academic writing is quite mechanistic and stylistic*' (participant H). A continuous process of engagement in reading activities is required, to support students throughout the research process '*even after the initial stage when they have submitted proposals, there should be continuous sessions'* (participant G). A democratic philosophy of learning has toprevail where opportunities are created for students to develop voice and agency (Wisker et al., 2007:312; Samuel & Vithal, 2011:82; Nkoane, 2014:703). Reading and commenting on the work of others support learning and encourage a critical reflection of one's own work (Gumbo, 2019:94).

Similarly, participants suggested that technology tools that can be used to enhance support, engagement and communication may include *Skype, Zoom* or *Messenger* (participants A, C, E, G, I), the use of a learning management system such as *Moodle* (participants B, C, L) and the use of social media and video clips of online sessions (participants B, D). *Blogging* can encourage students to develop their writing skills and to read and comment on each other's work, since '*students must read each other's work and the gurus work and criticise it because this is where learning takes place'* (participant I). '*The use of live streaming either via video or Facebook should also be considered to encourage more members of the cohort to participate*' (participant F). It is also imperative to '*support students' knowledge development by making electronic resources available to them online*' (participant G). For this purpose, '*websites can be created where YouTube video clips and other online material are shared with the cohort of students and supervisors to support students' development'* (participant K) and encourage further dialogue and engagement. Rout, Sommerville and Aldous (2015:275) state that one of the main drawbacks of cohort supervision in a distance education environment is logistical, since it is not always possible for the cohort

members to be present and active in the group. Using technology in cohort supervision can alleviate this problem when it forms an integral part of encouraging interaction and communication between members of the cohort (Donnelly, 2013:360; Manyike, 2017:8; Maor & Currie, 2017:4; Gumbo, 2019:94).

3.4.5 Building communities of practice

Even though creating communities of practice is part of the execution of the cohort supervision process (Choy et al., 2014:22), this component received special attention in the article because of its importance mentioned by participants. A community of practice requires the clear identification of the domain (an identify of shared interest), community (engagement in joint activities and discussions to share information), and the practice (individuals who work together to address recurring problems) (Wenger-Trayner, 2015) These components culminate in the key principles for forming a community of practice, proposed by Wisker et al. (2007:307), which include the sharing of mutual goals, mutual accountability, communication, engagement, pooling of resources and a shared repertoire inclusive of emotional support. The foundation to ensure successful engagement is '*respect and a willingness to share'* (participant A).

Forming a community of practice takes time and requires communication and organisation around an area of knowledge where members share a sense of joint identify (Teitel, 1997:6), in a '*safe and supportive environment'* (participant C). '*Members of the group must, from the start, identify the goals that they want to achieve and commit to support each other towards the achievement of those goals'* (participant F). Such connectivism is important to build personal strengths and develop knowledge pathways that will benefit the community (Fynn & Janse van Vuuren, 2017:190). This is based on dialogism, to construct and transform understanding through the sharing of opinions related to multiple perspectives (Krzychala, 2019). The cohort needs to be a place '*where students and often supervisors can ask, what they think are stupid questions'* (participant C). *It must be a 'safe space' where there is little or no fear to explore the unknown'* (participant F). An environment conducive to learning is important to support the community of practice; '*If this is not happening, then it is because we as supervisors are not inculcating it'* (participant I). Identity formation is essential to ensure a deep connection and commitment among members of the cohort

are established, not only to progress with their own studies, but also to support each other for the duration of the cohort (Rout et al., 2015:276). A shared collective responsibility for growth and development is mandatory. To promote learning, such shared responsibility requires critique and feedback, not only from one member of the cohort, but from the cohort as a collective (Samara, 2006:125).

One of the most positive aspects of working collaboratively in a community of practice is that students do not feel that lonely (participants C, F, G). There is '*positive peer pressure where the group knows your progress and support you in difficult times'* (participant F). This means that peer support through the community of practice extends beyond the cohort structure: '*Outside the cohort setting they are supporting each other, and I find that a great benefit. Even after completion, they are still in contact and talk to each other and visit each other'* (participant G). Santicola (2013:256) reasons that through the cohort, students can work collaboratively to generate ideas collectively. This is imperative to reduce feelings of isolation.

Part of the emotional support includes boosting intrinsic motivation (participant C). It is imperative for the group to face challenges as well as successes together (Maor & Currie, 2017:11). Students can share each other's difficulties and successes to remain motivated towards completing their degrees (Choy et al., 2015:22). Towards this end, it is important to celebrate success throughout the cohort supervision process, where '*celebrations and acknowledgements also create a positive form of competition, as members of the cohort are aware of each other's progress*' (participant B). '*They tend to work harder to not fall behind, as they would like to complete research goals with the rest of the cohort'* (participant C). Cohort members can celebrate milestones by, for example, creating a '*virtual wall of fame'* (participant J), including the names and successes of students in cohorts in departmental newsletters and taking students who achieve milestones to conferences. Such celebrations are important, as it motivates others in the same or other cohorts to strive towards achieving similar goals (Van Biljon & De Kock, 2011:1000). Celebrations are necessary for the university and individual departments to make students feel valued and part of the community of practice (Conrad, 2003).

Within such a community of practice, relationship management is extremely important, '*so that we support each other and celebrate each other's success'* (participant C). Students need '*to engage to gain support; psychological support, emotional support, intellectual support'* (participant K). Such engagement must take into consideration the unique characteristics of individuals within the cohort. Students' characteristics are to be factored in when communities of practice are formed, due to the diverse nature of personalities and professional careers of individuals that may form part of the cohort (Hutchings, 2017:535). This is important to reduce conflict and tension within the cohort, because '*postgraduate students are mature students, they are all adults and though they like to participate, they also sometimes have the need for individual attention'* (participant H). The context and scope of engagement can be predetermined by setting clear ground rules for dialogue, critique and reflection, where '*pre-negotiation of roles is absolutely critical, so we try and sort this out beforehand'* (participant B). If there are conflicting views and needs '*we talk about how to deal with it. Talk about this upfront. This is an amazing journey but there may be times of irritation and we need to talk about it openly'* (participant C).

3.4.6 Future and expanded use of cohort supervision in ODeL

As part of the final set of questions, participants were asked whether they would recommend cohort supervision to other academics, and particularly to supervisors in a distance education environment. Van Biljon and De Villiers (2013:1455) indicate that this question is necessary, as it often takes experience and strong organisational skills for cohort supervision practices to be planned and executed, and not all supervisors may be equally equipped. '*The structure of a cohort supervision approach may be unfamiliar to many supervisors'* (participant G) and '*conflict may arise where senior supervisors are not comfortable with the input of junior supervisors on the work of their students'* (participant H). Students may also find the cohort supervision process confusing since they have not been exposed to it before: '*Cohort supervision is not for everyone, it takes time to get grounded into it and to settle the students and the supervisory team and sometimes it can be a bit slow*' (participant C). Since it is difficult to manage large groups of postgraduate students and becoming even more so with the massification in higher education, Harrison and Grant (2015:562) indicate that it may be a difficult shift for many supervisors used to the apprenticeship model, to move

to alternative supervision approaches. This is also true for students. Because many students have not been exposed to cohort supervision before, the experience '*may be new and stressful for them'* (participant C). Especially in instances where it is not well-planned and students are not informed timeously of deadlines, milestones and engagements, '*frustration levels may rise as students may feel more isolated and confused'* (participant I). Since cohort supervision as an alternative supervision approach has not been applied or evaluated extensively in distance education, it need '*not be used in isolation'* (participant A). To develop a structure and gain skills in its utilisation, it may be more beneficial to combine cohort supervision with the traditional apprenticeship approach, so that '*groups of students can learn to collaborate and share the benefits of such collaboration, but still have the familiarity of the individual supervisor'* (participant D).

Despite the difficulties raised in the use of cohort supervision, its advantages outweigh the concerns: '*Absolutely, absolutely, without a doubt. I think it is a great way to learn and support each other'* (participant E). Other reasons for engaging in cohort supervision include: '*embarking on cohort supervision to assist students to work collaboratively'* (participant F), *'empowering students because they get to support one another'* (participant H), '*encouraging skills transfer*' (participant G), '*minimising feelings of isolation'* (participant H) and '*sharing your enthusiasm for the discipline and for research with others*' (participant K). '*It is also seen as a more cost-effective way of using staff and it is more participatory*' (participant D). Supervisors who also often feel isolated, get to share experiences and the burden of individual supervision: '*It is a collaborative way of supervision that is very attractive and enjoyable'* (participant H).

Students can expand the support offered by the cohort outside of its formal structure, by creating their own communities of practice (Van Biljon & De Villiers, 2013:1448). '*I often find students creating their own WhatsApp groups or socialising to discuss research issues outside of the structure that we provide for them'* (participant K). '*Social media tools can be used to engage and offer support without the supervisors necessarily being involved'* (participant C). This is important because students within the cohort can help each other in this way to maintain research momentum towards the achievement of milestones (Manyike, 2017:6). Support in such collaborative spaces reduces feelings of isolation, insecurities about learning and fear of failure.

The creation of cohorts in distance education may however be more complex and include more commitment and effort from all members to ensure its success (Hutchings, 2015:544), '*the value for students as well as supervisors is immense'* (participant E). Creating a collaborative, supportive and encouraging online space '*promotes a sense of belonging where nourished relationships often become the determining factor to motivate students to complete their postgraduate degrees*' (participant A).

3.5 Conclusion

In this article I explored the key dynamics to consider in contextualising the use of cohort supervision to create supportive learning environments in an ODeL environment. Although the application of cohort supervision towards such supportive learning environments may be easier where there is direct contact between students and supervisors, technology can be utilised in an ODeL environment to simulate a similar environment. Proper planning and execution of a structured approach can ensure that students and supervisors in a distance education environment are aware of the key activities to be executed and what their role and responsibility in these activities are.

Creating a supportive learning environment through cohort supervision requires commitment, engagement and involvement from all parties. Technology tools such as websites, learning management systems, social media and online communication tools (for example *Skype*, *Zoom*) may be utilised to create supportive learning environments. In as much as opportunities to create support for students to achieve key research milestones are required, such achievements must also be celebrated. In an online environment this may be achieved through acknowledging individual achievements in newsletters and using social media. Students need to feel that they are continuously rewarded for their hard work, which in turn will motivate them to strive towards similar research achievements. In a broader context, the utilisation of cohort supervision in an ODeL context can reduce the feeling of isolation that students studying through a distance mode of education often experience.

Cohort supervision also reduces the isolation of supervisors, as the cohort as a group takes collective responsibility for the completion of research outputs. As part of a community of practise, members of the cohort share a passion towards achieving collective research goals and learn to do this better through regular interaction and support. At its best, students learn the art of research by engagement, critique and reflection, academic questioning, dialogue with peers and supervisors as co-participants in a community of practice. Such opportunities to converse and deliberate on important research topics provide an environment that sustains and encourages active learning and the development of knowledge and skills beyond the mere completion of a research product.

The application of cohort supervision at an ODeL university requires further implementation and evaluation, to assess the extent to which students can be better supported to achieve their research goals. Embarking on postgraduate studies is difficult and requires skills and competencies that are only learned over time, through various trials and errors. The potential that cohort supervision provides may support the creation of learning environments, where all individuals that engage in the process become better leaners, researchers and supervisors.

Chapter 4: Conclusions and possible implications

4.1 Introduction

Supervision support is often the determining factor in enhancing postgraduate students' success. Supervisors need to adapt their supervision approaches to offer the necessary support and guidance to students to complete their postgraduate degrees. In an ODeL environment, where spatial, temporal and communication barriers limit engagement between students and supervisors, the importance of exploring alternative supervision approaches such as cohort supervision is imperative, to curb high dropout rates and extended completion times. I conducted a thematic analysis of existing literature to propose a four-stage cohort supervision framework (Chapter 2) to expand opportunities to use cohort supervision in an ODeL environment. I also used key themes in the literature to compile a semi-structured interview guide, which I used to obtain information from cohort supervision experts on dynamics to consider, in the implementation of cohort supervision in general, but also in a distance education environment (Chapter 3).

As a conclusion to the research, the aim of this final chapter is to reflect on my journey to explore the conceptualisation of cohort supervision in an ODeL environment. The aim is three-fold: to provide a summary of possible answers to research questions; to explain the extent to which the findings contribute towards the field of research; and to offer recommendations for further research.

4.2 Conclusions to research questions

The key research question was "*How can the cohort supervision approach at postgraduate level be conceptualised as an alternative pedagogy within an ODeL context?"* Answering the question required an exploration of three sub-questions:

- What constitutes a cohort supervision approach and distinguishes it from other supervision approaches?
- How can the cohort supervision framework be structured in an ODeL context?

- What are the key dynamics to consider in the application of the cohort supervision approach at postgraduate level at an ODeL university?

4.2.1 The uniqueness of cohort supervision

In terms of the first sub-question, Chapter 1 provided detail on defining cohort supervision and comparing the key features of this approach to other supervision approaches. Section 1.7.1 compared the apprenticeship, joint, group, hybrid / blended and cohort supervision approaches, to clearly indicate that cohort supervision is unique in that supervisors become mentors to promote peer engagement and encourage students to become active participants in communities of practice. Members of the cohort work collaboratively to achieve similar research goals. Open and honest dialogue promotes, encourages and motivates individuals to provide input that supports the research progression of all members of the cohort.

For cohort supervision to be successful, a balanced power-relationship is important where all members of the cohort participate, have equal opportunity to provide input, ask questions and engage in research discussions. The emphasis is on critique from various viewpoints, to encourage students within the cohort to collaborate in completing their research outputs. To support intrinsic motivation, it is important that group members celebrate successes and that such successes become motivations for others to progress and proceed through the research process. Cohort supervision is also based on the principle of scaffolded learning, where students are introduced to key topics related to the research process. Workshops, seminars, presentation sessions, feedback sessions and discussions are used to strengthen the methodological content knowledge of students, improve academic writing skills and assist students to engage in the data analysis, interpretation and drawing of conclusions (Section 1.7.1).

In an ODeL environment, the key components of cohort supervision can be supported through online engagement, where connectivism plays a key role to connect students, peers and supervisors (Section 1.7.3). Technology tools may be used to create a structured infrastructure, where certain activities or key milestones, such as proposal completion, chapter composition, data collection, data analysis, data interpretation

and the completion of the research product can be supported (De Lange, Pillay & Chikoko, 2011:17; Van Biljon & De Villiers, 2013:1445; Van Biljon, Pilkington & Van der Merwe, 2019:12).

4.2.2 Structure of the cohort supervision framework

On the second sub-question about how the cohort supervision framework is to be structured in an ODeL context, Chapter 2 provided a conceptual framework. Following an interpretivist paradigm and bricolage design (Section 2.3), I used a thematic analysis to identify key components to include in the framework. The themes were linked to the key theoretical constructs of the typology of research supervision (Lee, 2008:270) and the community of inquiry theory by Garrison and Akyol (2013:105). These themes were:

- exploring the teaching presence in cohort supervision (Section 2.4.1);
- constructing a cognitive presence in cohort supervision (Section 2.4.2); and
- promoting a social presence through collaboration and engagement (Section 2.4.3).

An analysis of the literature based on these themes, provided the construct for the proposal of a four-stage cohort supervision framework for an ODeL environment. As explained in Section 2.5, the four-stage framework aimed support students through various phases or milestones of the research process, where the first stage is the development of the proposal. During this stage, the emphasis is on the formation of groups, allocation of responsibilities, exploring of methodological content knowledge, developing of writing skills and strengthening of reference techniques.

During the data generation stage, students and supervisors are encouraged, through workshops, seminars and presentation sessions to develop and share content related to various chapters. Students are required to work within the structured approach followed by the cohort to present their work and obtain input and feedback. The process of engagement in workshops and formal presentations continues during the third stage, where the emphasis is on supporting students through the data analysis and interpretation phase. Through discussions, students are encouraged to share their progress by engaging with supervisors and peers. Presentations remain important and

critique is necessary to improve the quality of the research output produced by students. Especially during this stage, communities of practice necessitate honest feedback and extensive dialogue and support.

During the fourth stage, students are to be supported to complete the final research product. At this point, students may rely more on the guardian supervisor for specific guidance and feedback in terms of collating chapters and shaping argument flow to complete the final dissertation / thesis. Engagement in the cohort through discussions require continuation to afford students the opportunity to present their progress and obtain input and feedback on additional improvements required. As part of the fourth stage, encouragement is needed to ensure that students become members of the scholarly community by submitting articles to accredited journals and presenting their research at conferences.

4.2.3 Dynamics to consider in the application of cohort supervision

Pertaining to the final sub-question on key dynamics to consider, Chapter 3 provided detail on these dynamics. Linked to semi-structured questions posed to 13 interviewees, I identified dynamics to consider in applying cohort supervision. These received attention in Section 3.4, and included the motivation for engaging in cohort supervision, formatting of cohort groups, planning, executing, building communities of practice and expanding the use of cohort supervision in ODeL.

Participants proposed that cohort supervision activities be planned and executed in a structured manner to provide students with the necessary support and encouragement that they need to complete their research. The planning and execution of a cohort supervision framework that supports sustainable learning environments becomes the responsibility of an enthusiastic and committed individual, who can support students and other supervisors through the supervision process. Workshops, seminars, presentation sessions, sharing of digital resources and even social sessions require planning and execution in such a way that the supervision support nourishes collaboration, engagement, dialogue and identity formation.

The conceptualisation of a cohort supervision approach within an ODeL context requires a structured approach where a cohort engages on a regular basis. Such engagement may be through workshops, seminars, presentation sessions, feedback sessions and even social events, so that progress can be publicly celebrated. Communities of practice provide students with a support structure where they can share concerns, passions and content to proceed and improve on their research outputs. In an ODeL environment, this requires careful planning and the use of technology tools that may support the creation of a sustainable learning environment. Students can be encouraged to collaborate and share their research through wiki's, blogs, *Zoom*, *Skype* and video conferencing. Feedback can be provided via e-mail and even verbally via voice notes and Messenger. Electronic resources can be shared via the learning management system of the organisation or a website and students are to be encouraged to expand their own knowledge of methodological issues through MOOCs.

4.3 Implications

Implications of the research for the field of supervision relate to the theoretical points of departure, relevance of the four-stage cohort supervision framework, policy implications and inferences for practice. As the emphasis of the research was on the conceptualisation of a cohort supervision approach in an ODeL context, cognisance of the distance education environment within which cohort supervision should be considered (Chapter 1.7.2), is important. Temporal, spatial and communication distances between supervisors and students influence the support and engagement practises of a cohort supervision approach. Due to its unique nature, existing theoretical points of departure need adaptation to cater for the uniqueness of the ODeL environment. For this reason, Sections 1.8 and 2.3 provided detail on several theoretical and model components to consider in cohort supervision. Section 2.3 combined the typology of research supervision by Lee (2008:270) and the community of inquiry theory by Garrison and Akyol (2013:105) to identify theoretical points of departure towards quality cohort supervision. The theoretical points not only supported the creation of a conducive supervision environment, but also took into consideration the distance education environment in which cohort supervision is to occur. Since no theoretical framework exists to study cohort supervision in an ODeL context, these

theoretical and model points of departure provided a context in which the framework for cohort supervision in an ODeL context may be studied in future.

The use of a more aligned conceptual framework for cohort supervision was expanded through the proposed four-stage cohort supervision framework, which provided detail on the stages that may be applied to guide students successfully through the research process. The decision to use an approach where the emphasis was on milestones, rather than timeframes, was made because of the unique characteristics of ODeL students. These students are from diverse and often disadvantaged groups and therefore need more support, more structure and engagement with supervisors to keep them motivated to complete their research (Manyike, 2017:2). By following an approach where the emphasis is on achieving milestones as a group, the cohort supervision context provides opportunities for students to not only face challenges together, but also successes and milestones (Maor & Currie, 2017:11)

Other critical factors and implications for practice that emanate from the research may include:

- *Motivation:* Formal engagement opportunities require creation, as indicated in Section 3.4.5, and communities of practice strengthened to encourage students to actively participate in the cohort activities. Such motivation may create positive competition and encourage students to collaboratively work towards achieving the research goals set for the cohort.
- *Commitment:* Supervisor and student commitment is imperative to the supervision process and diaries need alignment to ensure physical / virtual availability to engage in collaborative activities. Section 3.4.6 explained that commitment will enhance the value of the cohort supervision process for all participants.
- *Structure:* For the cohort supervision approach to be successful, a structured approach is required. Sections 2.4.2 and 3.4.5 propose that workshops, seminars, discussions and presentations should be planned well in advance and diarised, so that all parties can prepare sufficiently to participate. As part of the discussion on the proposed cohort supervision framework (Section 2.5) suggestions were made that social media tools such as WhatsApp or the development and implementation

of an online application may be considered to remind members of the cohort about future events.

- *Feedback:* The importance of feedback, both from peers and other supervisors cannot be underestimated (Section 2.4.3). Students need to be encouraged to present, as well as defend their work, to improve the quality of their work (Section 2.5). Since feedback on the work of others may be new to many students, tools are required to assist studens and supervisors in how to address problematic issues in the work of others (Section 3.4.1). This may also include training students and possibly supervisors in specific feedback strategies and how to provide input in a constructive and supportive manner.
- *Support:* Because the cohort process may be unfamiliar to many students, a guardian supervisor may be assigned to provide overall feedback (Table 1.4). In instances where feedback may be contradictory, negotiation becomes important, so that feedback will always be to the benefit of the student (Section 2.5). By creating their own communities of practice, students will support each other outside the formal cohort supervision structure. This may be beneficial to reduce feelings of isolation so often experienced by distance education students and increase collaboration, to complete agreed-upon research goals (Section 3.4.5).
- *Engagement:* The value of having various supervisors and students involved in scrutinising and critiquing the work of individual students is a positive approach to bring multiple perspectives to the research process (Section 1.7.1). This encourages critical thinking and reflection towards the creation of an improved quality research output (Section 3.4.5).
- *Technology:* Various technology tools are available and are continuously developed to support educational practices. It is imperative that the organisers and supervisors of the cohort familiarise themselves with these technology tools and select tools that will simulate a sustainable learning environment (Table 1.4; Section 2.2). Technology infrastructure and skills of students require consideration when selecting technology tools, to ensure that all members of the cohort are able to actively engage in dialogue, critique and critical reflection (Section 2.4.1; Section 2.4.2; Section 3.2; Section 3.4.4.)

Finally, looking at the implications of this research for current policies, it was evident from all the South African participants that institutional policies impede the use of cohort supervision. This is even more so in an ODeL institution, where the literature purports that research output points are allocated to individual supervisors (Van Biljon & De Villiers, 2013:1443), and the collaboration among and between students and staff is seen as additional work to already overburdened supervisors (Gumbo, 2019:109). Support for the use of alternative supervision approaches such as cohort supervision should be encouraged through national policy directives, so that its cascading to revise institutional policies can be realised. Kisthinios and Carlson (2018:2) explain that policy directives in Europe, for example, support the use of cohort supervision, since institutions are encouraged to assign more than one supervisor to a student. According to Choy, Delahay and Saggers (2013:21) this practice is also standard in Australia, and according to Sproken-Smith, Cameron and Quigg (2018:97) in New Zealand, where a group of supervisors is responsible for the supervision of a student. This stimulates the formation of cohorts, where supervisors can more easily share information, provide extensive feedback and support students in the achievement of research milestones. Fraser and Lombard (2002:98) are of the opinion that, especially in distance education, policy directives are essential to conceptualise opportunities for the use of alternative supervision practices that may help to redefine and reshape our understanding of supervision.

4.4 Future research

Linked to the focus of this research to explore the conceptualisation of a cohort supervision framework in an ODeL context, several elements related to supervision did not receive detailed attention. The focus was on providing a dynamic picture of components and dynamics to consider in reflecting on the conceptual framework. Though cohort supervision can be used to enhance interaction, expand emotional support and encourage more in-depth analysis and engagement with research contents, the research did not assess the way cohort supervision is to be applied in an ODeL environment.

Further research is required to implement the proposed cohort supervision framework and to review the relevance and appropriateness of the four stages, to enhance

support for and collaboration with students to increase their research outputs. During the implementation of the proposed four-stage framework, attention is necessary to determine the value of engaging in the cohort approach for both students and supervisors.

Wisker, Robinson and Shacham (2007:317) further explain that, though most supervisors are familiar with the apprenticeship model of supervision, they have limited knowledge of the use of other supervision approaches. Exploring other supervision approaches requires training and skills development, to ensure that supervisors are confident to engage in alternative approaches. Research is further required about the skills and competencies expected of supervisors to engage in cohort supervision. This research need is also expressed by Van Biljon and De Kock (2011:1001) and McCallin and Nayar (2012:71). More research is required to compare solo and duo supervision to group supervision and its impact on supervision capacity from the perspective of supervisors.

Research may also be required to evaluate the effective use of various technology tools to create a community of practice environment where engagement, collaboration and dialogue are promoted. Such research may be extended to the technology infrastructure, skills and support required from both students, supervisors and ICT technicians to create a simulated sustainable learning environment. The need for research in the use of various technology tools to support open distance e-learning is emphasised by Gumbo (2019:108).

A comparison between the cohort supervision approach and other supervision approaches may also be explored. Whether cohort supervision is more effective than other supervision practices in attaining postgraduate research goals is a key area that requires further research. In addition, the use of cohort supervision to cater for post-colonial cultural development requires further exploration. In a country where the process of decolonising and Africanising educational practices has become imperative to cater for various cultural differences, the use of cohort supervision to support culturality, therefore requires further research.

4.5 Conclusion to the chapter

Upon critical reflection, I conclude that for supervisors to support vast numbers of underprepared students entering the postgraduate sphere, alternative supervision approaches require exploration. Individual supervisors no longer have the capacity to supervise large numbers of students by relying solely on the apprenticeship style. Different needs of students, who demand engagement and attention, and who are used to collaborating via social media, require supervisors to reconsider the ways in which they supervise. According to Mahlomaholo (2013:389), embarking on an alternative supervision approach such as cohort supervision may be very difficult 'as it demands that we step out of our operational comfort zones and create meaningful interaction with local communities through debate and negotiation'. Within the context of the research and summarised in this final chapter, the recommendation is that a four-stage cohort supervision framework be considered as an alternative approach to current supervision practices. Dynamics related to the formation of the cohort based on unique characteristics of institutions or departments, proper planning, structured execution and the formation of communities of practice provide a starting point for the use of cohort supervision in an ODeL context.

Within a worldwide higher education environment that is driven by massification, globalisation, financial constraints, changing policy directives and different postgraduate student profiles and needs, intelligence is required from supervisors to consider alternative supervision practices such as cohort supervision, to bring about positive change to the world. In as much as postgraduate research is necessary for knowledge creation, exchange of knowledge between industry and academia, development of higher levels of professional practices and individual development, change in the manner in which students are being supervised is necessary for higher education, to contribute its share towards 'peace and prosperity for people and the planet, now and into the future' (United Nations, 2019). Diversity in postgraduate research demands supervision practices that can elaborate on existing research practices and collaborations required, to foster critical thought among diverse postgraduate students. Cultivating cohort supervision initiatives could supplement the traditional apprenticeship model and alleviate some of the isolation and pressure associated with it, which both students and supervisors experience.

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Annexure A: Thematic analysis

Information included in this annexure focuses on detail pertaining to the thematic analysis. The annexure is divided into three sections to provide detail on the codes and relevant sources identified towards the thematic analysis, provide detail on the spreadsheet created to conduct the thematic analysis for audit purpose and to provide a synopsis of key information from the literature used per theme to compose Study 1.

A1: Summary of key codes and relevant sources

The embedded document provides detail on key condes and relevant sources used during the thematic analysis.

Table A1: Summary of key codes and relevant sources

Table A1: Summary of key codes and reslevant resources	
Code Theme	**Relevant Sources**
• Challenges	• Teitel (1997) • Burnett (1999) • Wisker, Robinson & Sacham (2007) • De Beer & Mason (2009) • Glover (2010) • Loureiro, Huet, Babtista & Casanova (2010) • Govender & Dhunpath (2011) • Samuel & Vithal (2011) • Van Biljon & De Kock (2011) • Van Biljon, Van Dyk & Naidoo (2014)
• Cohort programme structure	• Teitel (1997) • Burnett (1999) • Dysthe, Samara & Westrheim (2007) • Wisker, Robinson & Sacham (2007) • De Beer & Mason (2009) • Glover (2010) • Loureiro, Huet, Babtista & Casanova (2010) • Bitzer & Albertyn (2011) • De Lange, Pillay & Chikoko (2011) • Govender & Dhunpath (2011) • Samuel & Vithal (2011) • Van Biljon & De Kock (2011) • Donnelly (2013) • Govender & Dhunpath (2013) • Santicola (2013) • Van Biljon & De Villiers (2013) • Botha (2014) • Samuel & Mariyae (2014) • Van Biljon, Van Dyk & Naidoo (2014) • Choy, Delahaye & Saggers (2015) • Heeralal (2015)

Table A1: Summary of key codes and reslevant resources	
Code Theme	**Relevant Sources**
	• Rout, Sommerville & Aldous (2015) • Wichmann-Hansen, Thomsen & Nordentoft (2015) • Manyike (2017) • Agné & Mörkenstam (2018) • Winberg & Winberg (2018)
• Communication	• Dysthe, Samara & Westrheim (2007) • Wisker, Robinson & Shacham (2007) • Glover (2010) • De Lange, Pillay & Chikoko (2011) • Schulze (2011) • Van Biljon, Van Dyk & Naidoo (2014) • Choy, Delahaye & Saggers (2015) • Heeralal (2015) • Wichmann-Hansen, Thomsen & Nordentoft (2015) • Maor & Currie (2017) • Manyike (2017)
• Communities of practice	• Teitel (1997) • Dysthe, Samara & Westrheim (2007) • Wisker, Robinson & Sacham (2007) • Loureiro, Huet, Babtista & Casanova (2010) • Bitzer & Albertyn (2011) • Govender & Dhunpath (2011) • Samuel & Vithal (2011) • Santicola (2013) • Swarts 92017) • Fynn & Janse van Vuuren (2017) • Manyike (2017) • Agné & Mörkenstam (2018) • Winberg & Winberg (2018) • Gumbo (2018)
• Content knowledge	• Wisker, Robinson & Sacham (2007) • Govender & Dhunpath (2011) • Samuel & Vithal (2011) • Schulze (2011) • Rout, Sommerville & Aldous (2015) • Swarts (2017) • Winberg & Winberg (2018) • Agné & Mörkenstam (2018)
• Dialogue promotion	• Dysthe, Samara & Westrheim (2007) • Wisker, Robinsion & Sacham (2007) • Loureiro, Huet, Babtista & Casanova (2010) • De Lange, Pillay & Chikoko (2011) • Donnelly (2013) • Santicola (2014) • Samuel & Mariaye (2014) • Wichmann-Hansen, Thomsen & Nordentoft (2015) • Maor & Currie (2017)
• Enculturation	• Dysthe, Samara & Westrheim (2007) • Bitzer & Albertyn (2011) • De Lange, Pillay & Chikoko (2011) • Govender & Dhunpath (2013)

Table A1: Summary of key codes and reslevant resources	
Code Theme	**Relevant Sources**
	• Choy, Delahaye & Saggers (2015) • Heeralal (2015) • Rout, Sommerville & Aldous (2015) • Wichmann-Hansen, Thomsen & Nordentoft (2015) • Fynn & Janse van Vuuren (2017) • Swarts (2017) • Agné & Mörkenstam (2018) • Winberg & Winberg (2018)
• Engagement	• Teitel (1997) • Burnett (1999) • De Lange, Pillay & Chikoko (2011) • Santicola (2013) • Wichmann-Hansen, Thomsen & Nordentoft (2015)
• Feedback	• Dysthe, Samara & Westrheim (2007) • Glover (2010) • Loureiro, Huet, Babtista & Casanova (2010) • Govender & Dhunpath (2011) • Schulze (2011) • Donnelly (2011) • Van Biljon, Van Dyk & Naidoo (2014) • Choy, Delahaye & Saggers (2015) • Heeralal (2015)
• Group work	• Teitel (1997) • Dysthe, Samara & Westrheim (2007) • Wisker, Robinson & Shacham (2007) • Govender & Dhunpath (2011) • Schulze (2011) • Donnelly (2013) • Santicola (2013) • Choy, Delahaye & Saggers (2015) • Wichmann-Hansen, Thomsen & Nordentoft (2015) • Manyike (2017) • Swarts (2017) • Agné & Mörkenstam (2018) • Winberg & Winberg (2018)
• Monitoring	• Teitel (1997) • Wisker, Robinson & Shacham (2007) • De Beer & Mason (2009) • Loureiro, Huet, Babtista & Casanova (2010) • Govender & Dhunpath (2011) • Samuel & Mariaye (2014) • Van Biljon, Van Dyk & Naidoo (2014) • Rout, Sommerville & Aldous (2015)
• Reflection	• Teitel (1997) • Loureiro, Huet, Babtista & Casanova (2010) • De Lange, Pillay & Chikoko (2011) • Wichmann-Hansen, Thomsen & Nordentoft (2015) • Maor & Currie (2017)
• Resource requirements	• Teitel (1997) • Burnett (1999)

Table A1: Summary of key codes and reslevant resources	
Code Theme	**Relevant Sources**
	• Wisker, Robinson & Sacham (2007) • Govender & Dhunpath (2011) • Schulze (2011) • Van Biljon & De Villiers (2013) • Fynn & Janse van Vuuren (2017)
• Roles and responsibilities	• Teitel (1997) • Burnett (1999) • Dysthe, Samara & Westrheim (2007) • De Lange, Pillay & Chikoko (2011) • Govender & Dhunpath (2011) • Schulze (2011) • Samuel & Mariaye (2014) • Choy, Delahaye & Saggers (2015) • Heeralal (2015) • Fynn & Janse van Vuuren (2019)
• Scaffolded learning	• Picard, Wilkinson & Wirthensohn (2011) • De Lange, Pillay & Chikoko (2011) • Samuel & Vithal (2011) • Van Biljon, Van Dyk & Naidoo (2014)
• Technology tools	• De Beer & Mason (2009) • Loureiro, Huet, Babtista & Casanova (2010) • Schulze (2011) • Picard, Wilkinson & Withensohn (2011) • Van Biljon & De Kock (2011) • Donnelly (2013) • Van Biljon & De Villiers (2013) • Maor & Currie (2017) • Manyike (2017) • Swarts (2017) • Gumbo (2018) • Gumbo (2019)
• Value	• Teitel (1997) • Burnett (1999) • Glover (2010) • Loureiro, Huet, Babtista & Casanova (2010) • De Lange, Pillay & Chikoko (2011) • Govender & Dhunpath (2011) • Samuel & Vithal (2011) • Van Biljon & De Kock (2011) • Samuel & Mariyae (2014) • Van Biljon, Van Dyk & Naidoo (2014) • Choy, Delahaye & Saggers (2015) • Maor & Curie (2017) • Agné & Mörkenstam (2018) • Winberg & Winberg (2018)

A2: Thematic analysis spreadsheet

The attachment provides detail on the key information per source that could be identified, taking the key codes into consideration. This document was originally created as an Excel spreadsheet but converted to a Word document for ease of review.

Table A2.1: Structure of the programme

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Authors	**Date**	**Page number**	**Quote**
Teitel	1997	66	We embraced the cohort design because of the structural and organizational benefits it promised and because we expected stronger bonds to form among the students that would lead to increased retention.
		78	Develop clarity about what kinds of expectations for "cohortness" we have. How connected do we want students to be with one another? Should they be sharing personal and professional issues? Should students cross visit each other's workplaces? Should they be dealing with deep-seated issues such as attitudes toward race and racism? Do we have program-wide expectations for cohort connections, or should each cohort group develop its own expectations?
		78	Provide time and space for the development of real shared engagement
			Pose-focus on urban schools or on a set of shared beliefs about the needs of schools and the roles of leaders in them. Students should have opportunities for focused work around those shared purposes.
		78-79	Provide time and space for informal connections among students-whether through extending class sessions to provide longer shared dinners together, or through designating some of the integrative seminars to personal sharing, or through encouraging students to organize other kinds of social outings.
		79	Provide faculty with enough flexibility in course "coverage" to allow or encourage them to follow important issues where they lead
		81	Clarify how much responsibility for cohort conflict should be resolved by the cohort without faculty involvement, and be sure to structure a time and a place for the necessary interactions to happen
		81	Have a charter or guidelines and expectations developed by each cohort, and clarify which parameters about behavior and group process are appropriate for cohorts to decide and which decisions are program-wide
		83	Develop detailed curriculum "maps" to outline each portion of the students' program-courses, integrative seminars, internships, and so forth to highlight what content and what process skills will be addressed

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
		83	Accompany the curriculum planning map with a "course portfolio" that describes each component as it is delivered. This would include a syllabus, the teaching notes kept by the faculty member, anonymous mid semester and final student informal evaluations, examples of student work for the class, and other comments about any unusual development in the course
		83	Assign a faculty member to each cohort as it comes in, to be an advocate for the group, informing new faculty members about the personalities and issues of the particular cohort.
		84	Establish appropriate decision-making structures. The 02 cohort has two representatives at the biweekly planning committee meetings; master's ICAGS cohorts have student representation on the program's advisory committee. These are relatively new relationships, and it will need to be clarified what the extent and nature of these roles are.
Burnett	1999	48	During the meetings. the students had the opportunity to discuss their dissertations and related issues, such as the development of research ideas, the pragmatics of doctoral research including access to subjects/participants, ethical considerations, and resources for data entry and analysis.
		48	Having a rolling cohort membership provided more advanced students with the opportunity to share their insights about the dissertation process with new ABO status students in a collaborative environment.
		48	Students coming into the cohort around the same time were paired and encouraged to support each other via a "buddy system.
Dysthe, Samara and Westrheim	2007	299	A three-pronged approach was introduced, combining supervision groups, student colloquia and individual supervision
		300	The general aim of the alternative model was, on the one hand, to counteract the negative effects of students having to rely on just one person for supervision, and, on the other, to investigate the potential of group learning in the research and writing processes.
		300	The particular aims were threefold:(1) to improve students' academic writing; (2) to provide support and help students solve the problems they encountered in the different phases of their research; and (3) to help students finish on time.
		301	The students attended a full-time programme, but a majority of them also worked part-time.
		303	To sum up then, our three-pronged model of supervision is grounded in sociocultural theories of knowledge and learning, and more specifically in Lave and Wenger's theories of what it takes to become full participants in disciplinary communities of practice.

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
		304	The colloquia were organized by the students themselves from the first semester
		304	The participant students were organized in two colloquia groups of five and six students respectively
		305	a weekly forum for discussion of texts and tasks connected to the courses in educational theory and research methods.
		305	In the second semester they were reorganized to match the supervision groups, and, even though they continued to be used for discussion of theory and journal articles,
		305	The focus of the supervision groups followed the progress of student research projects, starting with the elements of the project plan and ending with the chapters of the thesis.
		305	The groups met every third week in the second semester, and once a month in the third and fourth semester.
		305	Each session had a student group leader whose assignment was to ensure a clear structure, and to divide the time equally between the focus students.
		305	The supervision process ended with reflection about positive and negative aspects of the session.
		305	participant students received individual supervision in addition to being involved in the aforementioned groups
		306	The student colloquia provided a structured space where the students shared their fears of failure and their desires to succeed, their frustrations and their joys.
		310	*Supervision groups.* Multiple and divergent voices were the feature of these groups that was highlighted by the students, and it seems to be the very basis of the power of the group.
		310	According to the students, supervisors and students contributed in different ways; the first by providing solid academic knowledge and the latter, for instance, by discovering new sides to established knowledge
Wisker, Robinson and Sacham	2007	309	The use of cohorts enables group-work, sharing of ideas and supportive development. This is built in to the workshops, continued throughout the period of the research and afterwards.
		309	Self-help groups and critical friendships are bonded during the workshop programme and remain supportive during and after the research.
		309	Specifically, cohorts help participants in relation to motivation, maintaining momentum, commenting on work in progress, providing critiques of developing and final drafts of writing, and providing support towards vivas
		309	The five-stage programme is constantly being updated and improved in response to student evaluations, comments, progress and our own shared sense of its appropriateness.

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
de Beer and Mason	2009	215	There are, however, various combinations of blended learning delivery methods, with no one model accepted as generic
		215	blended learning is often delivered through three channels: the classroom, the virtual classroom, and self-paced online courses'. It has been found that all these delivery methods are used in postgraduate supervision, except, of course, that there is seldom a classroom situation but rather a face-to-face consultation between student and supervisor.
		217	The online infrastructure facilitates the supervision process. From the start, most, if not all, of the records pertaining to the students are kept online and are easily accessed by the individual students, supervisors, and other authorised parties.
		217	These online documents become dynamic evidence of the research process. The information held is updated almost on a daily basis by students, supervisors, and consultants. Students' and supervisors' responses are measured against an online planning document and an online bipolar continuum.
Glover	2010	124	placed the cohort, workshop, or group experience at the centre of the supervisory experience for students undertaking a research higher degree
		127	The project team decided that students would receive a mix of four general modes of supervision: i) large-group supervision; ii) small-group supervision; iii) individual creative project supervision; and iv) individual exegetical project supervision.
		127	The program will offer structured cohort supervision in the writing of a stage play as the major research component of MA (Research).
		127	Principal supervision of the program and weekly cohort supervision (30 weeks) will be provided by screenwriter/director
		128	The student will be offered regular weekly or fortnightly supervision for the period March to November 2003.
		128	The supervisor will remain available for negotiated supervision until February 2004.
		128	While this is not a course work program, it is proposed that, as much as possible, the student group complete the course in unison facing writing and research challenges at the same pace.
		128	expected that students will meet weekly for a period of two to three hours and from time to time participate in workshops, symposia and other activities established within the program
		128	Guest speakers at meetings will include major professional figures in the local film industry.

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
		128	The weekly meetings are intended as the central form of support and supervision to the students undertaking this award.
		128	The large group convened weekly throughout the year progressing through four phases.
		128	The first eight weeks most resembled a classroom situation. The two supervisors convened a weekly three-hour discussion around an aspect of screenwriting, usually with a particular film as a focus.
		128	In the latter half of the evening, people would discuss their developing ideas for their screenplay
		128	In the latter half of the evening, people would discuss their developing ideas for their screenplay
		128	During the second term of eight weeks, the students began work on a first draft of their screenplay due at the end of the term.
		128	The large group discussion about film structure continued, but each week the meeting also broke down into small group discussions: three groups of three or four students.
		128	One small group who were long time collaborators, pre-dating the course, found this process productive and familiar. A second group were collaborating for the first time, but also found this process productive. The final group, in this case of four students, broke down in time to two pairs, which proved more workable for the intimate discussion of each others' projects.
		129	Individual meetings with the students about their exegeses also became more frequent
		129	By the final ten-week term, the small group meeting had stopped for everyone other than a pair of long-term collaborators. Instead, the focus drew back to the meetings of the large group, where each week we read one of the screenplays in full
Louirero, Huet, Babtista and Casanova	2010	153	"supervision committee" may be essential for students to get involved and be supported by experts and a supervisory group.
		154	collegial re- search supervision process must involve research students, guardian supervisors and the constitution of online communities in order to enrich and enhance the supervision process and to provide opportunities to develop collaborative work.
		157	Through a process of negotiation of the research projects and questions with the students, small research teams were constituted (2-5 members)

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
		158	not a closed CoP, since external members can access the site, in particular during the validation of the data-gathering instruments (for example, of the impact studies) and of the data analysis (in particular, the studies involving interaction analysis)
		158	In addition to using ICT tools to interact, members of the Co-*Tiques* met face-to-face. Such meetings were an opportunity to present ongoing work and thus systematise and discuss research topics
		164	In the CoP face-to-face meetings, ongoing work was presented and thus systematised and discussed. The members who did not have the opportunity to attend these face-to-face meetings could still follow the presentations and discussions using the above-mentioned tools. In addition, collaborative writing tools (such as a wiki or Google Docs) were used for collaborative writing, mainly of articles.
		166	Online interaction and face-to-face meetings enabled them to discuss their own work as well as that of their peers. For instance, the group of students developing impact studies were able to have close contact with research concerning online interaction analysis and CoP and *vice versa*. Some of them also interacted with external experts and were able to call upon different sources of knowledge and expertise
Bitzer and Albertyn	2011	879	there are advantages of the group learning as a supplement to independent supervision.
		879	suggest that work-in-progress seminars involving peers encourage weaning of students from supervisors towards creating independence. This reflects a more integrated approach to supervision.
		880	The supervision groups in their study operated alongside an individual supervisor process and took the onus off the individual meeting by saving individual supervision time.
		880	Variations of this approach can be found - for example use of the guardian supervisor to support novice supervisors.
de Lange, Pillay and Chikoko	2011	16	As one of many other models of support for learning and the development of scholars and scholarship, the cohort model operates over a three year period and we felt the need to 'write it up' as a contribution to the debate of how to support students in developing scholarship and completing the doctorate.
		17	The challenges experienced by both supervisors and students as cited above, seem to confirm the need for support structures such as provided by our own cohort model, where ideas are shared and students learn in a safe space with other students.
		17	A further approach, complementary to the apprenticeship approach, and the one, we describe in this paper, is that of a cohort of doctoral students, working with a group of academics, who bring expertise from a variety of fields.

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
		17	The support for such doctoral learning thus takes place in various ways, including support from the main supervisor, the cohort of academic staff, as well as the cohort of peer doctoral students.
		17	while the traditional one on one supervision and its related approaches cannot and should not be replaced, they need to be complemented by other strategies, such as the cohort approach that we report on in this paper.
		17	In the early stages of the planning and development of the doctoral cohort model of supervision and support, it was conceptualized around a very strong discipline interest.
		17	The cohort model was set up as a 'structure' to support intellectual development and knowledge production in doctoral education research, through a community of learning.
		17	The cohort model also intended providing a safe and critical space for learning to work together to bring about this change.
		18	The supervision and support doctoral programme based on a cohort model is one approach of supervision which may serve to 'dilute' the supervisory relationship and yet complement the supervision process.
		18	The cohort model is planned and designed to run over a three year period as a supportive structure for the supervision of doctoral students.
		18	The model revolves around supporting a cohort of doctoral students in three phases. The first phase focuses on refining and finalizing the research proposal;
		18	the second phase focuses on data generation
		18	and the third phase focuses on data analysis and 'writing it up'.
		18	Students who work at a faster pace are not locked into a phase, but move to the next phase relative to the actual work which has been done.
		18	The students who do not manage to complete the thesis
Govender and Dhunpath	2011	89	The cohort sessions, which supplement the support offered to students by one-to-one supervision, draw on the expertise of experienced and novice supervisors from within the Faculty who also act as cohort supervisors.
		89	The seminar sessions also allow for "real-time" appraisal of students' work in progress by both peers and cohort supervisors.
		89	Bringing students within a particular cohort together six weekends a year (Friday afternoon to Sunday afternoon) over three years, the seminars augment the one-on-one supervision that continues alongside the seminars

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
		89	The seminar sessions focus on proposal development in the first year, fieldwork and data production in the second year, and data analysis and thesis writing in the third year.
		89	The seminars are designed to give students opportunities to chair sessions, advance their ideas for debate and discussion and both give and receive criticism in a robust and critical but caring environment
		89	The success of the cohort model of doctoral supervision over the apprentice-master model, particularly as it addresses the problem of throughput
		92	In appraising the value of their experiences across the years of support, students found the research proposal phase (generally the first year on the cohort programme) very useful because generic research issues cutting across different research areas were interrogated, providing critical insights for their proposal development.
		92	post-proposal generation phase was considered less useful. Five of the six students interviewed commented on the lack of relevance for their study of the second and subsequent year seminar sessions.
		92	In the second and third year, the students were of the opinion that they would have been better engaged working with students in similar research areas who were at the same stage of completion in their research.
Samuel and Vithal	2011	78	By comparison, a “community approach” usually exists side by side with traditional modes. Parker (2009) describes, for instance, “a learning community approach to doctoral education involving scholarly writing groups”.
		78	In this approach communities are usually formed in respect of a particular disciplinary area or specific aspects of the research training and education such as research proposal development or seminars on advanced theoretical orientation.
		78	argues for the need to move towards supervision modes which address preparing PhD students not just to engage with the academic nature of the research study itself, but also focus on what students will do as they enter into the career of utilising their high-end research skills.
		80	Each student brings his/her unique disciplinary and biographical heritage of conducting research gleaned from their particular relationship established in masters, honours and/or undergraduate studies in their disciplines.
		81	Similarly, the doctoral cohort model includes staff members who are potential supervisors from a variety of disciples and methodological persuasions. They too represent a diversity of paradigmatic perspectives relating to educational research.
		81	At the initial stages of registering with the Faculty of Education the students present a draft research proposal which marks their broad field of study and potential methodology. This is regarded as a “candidacy” phase in which students are assigned “loosely” a potential supervisor who would serve as an advisor to the project.

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
		81	candidacy panel team makes recommendations based on the selection interview into the doctoral programme.
		81	Over time students may choose to rethink and re-select their supervisors more appropriately as the research design and methodology evolves
		81	The first phase of the study is characterised by exposing students to a variety of possibilities for re- designing their study drawing from the range of students' and mentors' input in the cohort.
		81	The Saturday and Sunday programme are characterised by the students presenting "work in progress", identifying blockages and successes in their particular work according to their different phases or targets set during each successive cohort meeting, thereby also honing their future conference presentation skills about their studies.
		81	Each phase group meets separately but shares communal time and space during the tea and lunch breaks to exchange views with each other.
		81	A cohort group of approximately 100 students constitutes the students and supervisors who will meet on any given doctoral cohort weekend. In addition to the large cohort group, there are also smaller cohort groups of students and supervisors who discuss particular methodologies or epistemological opinions. Some of these cohorts are constituted around single supervisors, or teams of supervisors, and may even sometimes be constituted by students themselves as a collective of students only.
		81	The collaborative model of doctoral study has many variants, and students may also belong to more than one cohort at any given time.
Schulze	2011	796	Quick turnaround time of two to three weeks was seen as crucial.
		796	Students wanted more assistance with: planning the study (using mind-maps and sketches) within timeframes; assessment criteria; and writing articles after they had graduated.
Van Biljon and de kock	2011	988	multiplicity in the postgraduate supervisor-student relationship is an important issue to explore. An increased throughput rate and shortened study period associated with multiple supervisors per student would suggest that multiplicity adds measurable value to postgraduate supervision relationships
		993	An increased throughput rate and shortened study period associated with multiple supervisors per student would suggest that multiplicity adds measurable value to postgraduate supervision success.
		1000	The most interesting finding is that co-supervision is almost significantly associated with throughput success

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Authors	**Date**	**Page number**	**Quote**
		1000	The qualitative study highlighted the fact that co supervision mediated the student's experience and buffered possible deficiencies on the part of the supervisor.
Donnelly	2013	359	Online logbooks were used in this individual setting to record a basic framework of meetings between the student and supervisor. These were established in Blackboard as private discussion board topics, and both the supervisor and the student completed entries.
		359	log to manage the process of negotiation positively without administratively overloading the process.
		360	Supervision groups consisted of two or three supervisors and their MSc students based upon similar project themes/methodologies
		360	Research students were able to bounce ideas off supervisors, read their verbal and non-verbal reactions and develop extended inter- actions between each other.
		360	Research wikis were established by a number of the students themselves as an organic form of engagement with each other and as a collaborative layer to encourage the participation of other researchers.
Govender and Dhunpath	2013	221	cohort model has academic, affective and interpersonal benefits which include the promotion of greater solidarity within cohorts by generating mutual support and protection, improved graduation rates, reduced attrition and the creation of intellectually stimulating environment within which the learning is facilitated.
Santicola	2013	256	The thought behind the cohort model for a doctoral program is that students can work together and create a supportive network. This network enables students to generate ideas collectively and collaborate with one another with the hopes of reducing the feeling of isolation.
		256	philosophy of a cohort is dissimilar when compared to a traditional program in that there are no defined roles such as teacher, student, and mentor, but all members of the cohort fill these roles at different times.
		256	Another view of a cohort can be summed up as “the cohort is not just a class, it is a relationship”
van Biljon and de Villiers	2013	1444	'multiplicity' distinguishes the practice of *solo supervision* from *co-supervision* and *cohort supervision.* From the perspective of the number of students, *cohort supervision* means one or more lecturers supervising groups of students
		1445	Cohort supervision: One supervisor, or more than one supervisor, supervising more than one student (one-to-many or many-to-many relationship) in a group structure.
Samuel and Mariaye	2014	513	not a taught programme but a system of providing guidance to students in a community of supervisors and students, each of whom adds to the development of each other

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
			The programme spans the three broad phases of headwork (refinement of the proposal and research design), fieldwork (engagement with producing data) and text work (producing the final product of a doctoral thesis).
			seminars assemble staff from MIE and UKZN in a three-day weekend seminar, six times a year over three years.
		514	It aims to position the doctoral candidate as a producer of knowledge
		516	the programme's intention is to afford agency and autonomy for independent thinking by the doctoral student.
van Biljon, van Dyk and Naidoo	2014	166	the design, implementation and first evaluation of the pyramid cohort supervision model (PCSM)
		166	The Cohort leader is at the apex, followed by the group of experienced supervisors as the second layer, then the larger number of intermediate and novice supervisors, and the even larger number of student cohorts at the bottom of the pyramid.
		167	PCSM is designed to build on the strengths of cohort supervision while mitigating the challenges through providing opportunities for individual phases where students (and supervisors) can work at their own pace and develop scholarly independence.
		167	The learning principles relevant to postgraduate cohort supervision are inherent to the theory of constructivist learning, namely constructivist learning as an active process which is social and creates meaning based on individual and shared experiences
		167	This is augmented by co-operative learning which assumes a positive interdependence between group members (students) while retaining individual accountability.
		167	Positive interdependence means the group process is structured in such a way that when one member of a group benefits, the other group member also benefits.
		167	Learning is an active process; by nature social and most likely to occur when learners share ideas, inquire, and problem solve together
		167	students must have opportunities to make sense of new knowledge and create meaning for themselves based on individual and shared experiences within a group formation
		169	The capacity advantage of the PCSM is that the number of cohorts may be increased with a lessened impact on the Cohort Supervisor.

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
		169	Cohort supervisor acted as a group supervisor as well. This was considered useful for monitoring the group supervisors experience in this initial study but it is counterproductive in economizing supervision capacity since the Cohort leader has a strategic and leadership role and should be focused on the planning and evaluation.
Choy, Delahaye and Saggers	2015	20	The foundations of learning cohorts are informed mainly by the theory of social constructivism concept of 'community of practice'.
		21	learning experiences need to be purpose- fully designed and supported to enhance student achievement.
		21	That is, cohorts need to be purposefully developed if a cohort model of HDR supervisions is to succeed.
		21	A cohort-with-one: a cohort sharing a common research area or theory is assigned to a single supervisor with expertise in the research topic, theory and methodology OR
		22	Cohort-with-team: a cohort assigned to a team of supervisors whose complementary expertise in the research topic, relevant theory and method- ology broaden the scope of support for the group
		22	Fundamentally, the relationship in the cohort model is tripodic where learners draw on and contribute to three main sources—individual self, supervisor and cohort members.
		26	initial week long residential workshop which was held 8 weeks before the semester commenced. This time was mutually convenient to all involved and was within the resource constraints of the faculty. The orientation initiated a psychological contract—students' set of beliefs and commitments and mutual obligations to themselves, the cohort,
		26	The workshop began with students introducing each other, explaining their roles in the VET sector, and briefly stating their area of research interest and expectations of the course. They also noted synergies between their research interests
		27	The cohort was then introduced to key Faculty staff who explained their roles and responsibilities. An advantage of meeting the different staff and participating in faculty-wide activities was to affiliate with other staff
		27	Next, a typical learning journey for the MEd Research and transition from dependent to independent learning was shared by a recent graduate who brought to light the realities of being a part-time research student.
		27	The orientation workshop provided not only good information, but the opportunity to re-think [my project] and share with the cohort what was most valuable
Heeralal	2015	94	Supervisors and postgraduate students relate to each other in ways that are unequal and constantly changing as the project progresses. Typically, this development is marked by four overlapping stages, namely: the supervisee is dependent on the supervisor; the supervisee becomes increasingly independent as the supervisor

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
			takes on the role of coach; the supervisee becomes independent supported by the mentoring of the supervisor; and finally the supervisor and supervisee become interdependent in a peer-peer relationship.
Rout, Sommervill and Aldous	2015	275	collaborative cohort models (CCMs), provide effective gearing for student research within a limited population of supervisors, but only option 4 addresses the immediate need for more supervisors. - One or more supervisors to a cohort of students and a cohort of novice supervisors.
		275	Option 4 has the advantage of combining the benefits accruing to students participating in multimember groups 51 with modelling the supervisor's role for the benefit of disciplinary specialists unaccustomed to that role.
		276	CCM model must include both students and supervisors. This avoids the possibility of the CCM group contradicting a student's own supervisor.
		276	If the group is large enough, more homogeneous subgroups (based upon either discipline or research design) may separate within the process to discuss matters of specific relevance, thereby also affording more individualised guidance of students.
		276	Effectively, students belong to two cohorts: disciplinary and research method.
		276	danger that the process may adopt a linear seminar-based approach, which is not the intention. One way to avoid this is to use a goal-directed model where the objectives of each group meeting are planned in advance, based upon milestones within the research process
Wichmann-Hansen, Thomsen and Nordentoft	2015	19	Collective Academic Supervision (CAS) for learning in higher education whereby the individual projects of master students are supervised in group sessions.
		19	The core idea is that greater exposure to the theoretical and methodological approaches of their peers can help in honing students' argumentation for their own approach and choices.
		20	so-called collaborative cohort models, peer support groups, interest groups, group supervision and reflective focus groups with peers
		20	learning is conceptualized as the process of becoming a member of an academic community, and supervision as the act of facilitating new members to become fully embedded in this community by promoting and enabling knowledge participation

Table A2.1: Structure of the programme			
Authors	**Date**	**Page number**	**Quote**
		23	The four elements compose the complete - element 1 meeting with supervisors and presenting the project; element two collective academic supervision; element 3 collegial development seminars with all supervisors and element four focus group / telephonic interviews
Manyike	2017	5	Face-to-face consultations were, however, only possible with students who live close to the university, or with those students who were willing and able to travel to the university.
		5	The collaboration between experienced supervisors and novice supervisors would enable them to share ideas amongst themselves and further enhance the novice supervisors' knowledge in dealing with different aspects of supervision.
		7	Experienced supervisors appeared to be able to provide students with the structure of the thesis as well as with realistic schedules which further assisted students in planning their work and calls for a 'community of practice' among supervisors to work collaboratively and share their experiences.
Agné and Morkenstöm	2018	671	We argue, therefore, that collective supervision in the first year of doctoral studies is more effective than individual supervision as a factor in reducing TTC and increasing completion probability.
		671	Collective supervision is supposed to reduce the TTC in the first place because it enhances peer learning; that is, 'teaching and learning strategies in which students learn with and from each other without the immediate intervention of the teacher'
		671	their own work from the perspective of multiple theories, methods and empirical observations by peers, allowing them to learn from the experiences of other students
Winberg and Winberg	2018	95	research supervision is often blended, comprising infrastructural resources and academic communities that are intellectually, socially and geographically dispersed.
		95	combine supervisor and candidate meetings with a virtual classroom that offers teleconferences, online exemplars, discussion groups and self-paced online courses
		103	cohort supervision is highly collaborative, task distribution is fluid as supervisors and teams take different roles.

Table A2.2: Technology tool utilisation

Table A2.2: Technology tool utilisation			
Authors	**Date**	**Page number**	**Quote**
Wisker, Robinson and Shacham	2007	317	To this end we developed an initially Web CT/then ANET-based online supervisory support and development programme. To cater to the needs of busy people, at a distance, this support provision contains:
		318	It has been assumed that some supervisors would welcome a more systematised organised programme of development opportunities, and that the supervisor group could include both those involved in the international programme and others
		318	Supervisors who so wish can follow the online programme and produce a port- folio-based response to its tasks and activities which maps demands, developments and questions related to the stages of supervision and the stages of students' research development work. Supervisors can use it to reflect and work towards their practice development with students
		223	postgraduate supervision is also considered time effective by students because it has no geographic barriers. One student reported that 'One can communicate from anywhere at any time. I don't have to be physically at the supervisor's office to get my work done, all can be done online'
Louirero, Huet, Babtista and Casanova	2010	151	Online research supervision is a relatively new and evolving process due to changes in university at both undergraduate and postgraduate levels
		152	Taking into account the potentialities of ICTs related with, for instance, their flexibility as far as distance communication and collaboration is concerned, one way to face the above-mentioned challenges resides in their use to enhance the research supervision processes
		152	Yet the potential of ICT to shape supervision practices "has received almost no critical attention"
		152	lack of knowledge concerning practices of online support for research training and the reduced understanding of the pedagogies involved in the online research supervision process
		152	what is needed therefore is a richer, more complex picture of distance education modes of postgraduate pedagogy
		154	Online research supervision, understood either as a virtual or as a blended-learning process, is characterised by the research stu- dent and supervisor working at a distance.

Table A2.2: Technology tool utilisation			
Authors	**Date**	**Page number**	**Quote**
		154	The evolution of ICT facilitates the emergence of forms of re- search supervision that encompass the use of different tools
		154	Email, mainly to support postgraduate students on a one-to-one basis
		154	Virtual supervision environments, such as the one developed in the PROS (Promoting Researchers Online Supervision) project, or the use of WebCT
		154	Web 2.0 tools, as in “deepthink”, a Second Life campus being developed to support an innovative postgraduation programme, was recently launched
		154	On the campus, a blend of synchronous and asynchronous Internet technologies is used. The campus includes a “welcome area” for orientation purposes, a “study area” to support students’ collaboration, a “library area” to facilitate access to research resources, a “sandbox” to materialise objects and scripting activities, and the “main auditorium” for larger events. A recreation space is also available
		155	virtual learning environments are environments where students can meet in a highly interactive way using different tools, such as chats, blogs, and wikis.
		155	supervision environments mediated by ICT can offer a richer environment, increase time and space flexibility, and support the use of different strategies provide greater inter- action between postgraduates and their supervisors and increase the availability of the supervisors - one of the problems that students commonly experience
		156	electronic supervision requires a strong social presence in order to develop confidence relationships between student and supervisor.
		157	In fact, students can be more easily involved in helping each other in small teams, ICT being an important source of support.
		160	Several personal content areas were created and constituted an archive of the students’ ongoing and final work. In their personal areas, students could share their research projects, articles, progress and final reports, final dissertations, and presentations.
		160	Blackboard tools used and associated objectives
	2011	957	Blogging, in particular, has been praised for its ability to 'provide a forum for academic discourse'

Table A2.2: Technology tool utilisation			
Authors	**Date**	**Page number**	**Quote**
Picard, Wilkinson and Wirthensohn		957	Most importantly in the postgraduate research context is the ability of Web 2.0 applications to facilitate students becoming part of an academic community of practice and developing into autonomous agents confidently communicating within this community
		958	the approach has been to use a combination of synchronous and asynchronous technology in order to recreate a research community of practice for remote candidates providing more interaction than the customary comments on a paper document sent through email.
		958	blended approach to supervision 'improves the supervision process', 'reduces the administrative workload of the supervisor' and 'creates a dynamic record of the supervision process'
		958	use of the Blackboard learning environment where supervisors and students could place files of relevant information, maintain an ongoing record of drafts and comments and participate in ongoing online discussions. This record of interactions helped to facilitate the transparency which is vital for effective supervision
		958	The difficulty with university-based environments such as these is that they require the design, set up and customisation of a separate class for each student, while web based technologies such as social networking applications or blogs are potentially problematic in terms of their privacy.
		959	to be truly effective, webcams, recording of media and other sophisticated technology is required in an attempt to recreate the face-to-face environment
Van Biljon and De Kock	2011	990	Most interaction between student and lecturer is mediated by phone, mail or email and the perceived quality of this interaction is a strong predictor of the success of the learning experienc
		990	Technological progress supports and even drives the shift from a teacher-centred instruction or teaching paradigm to a student-centred learning paradigm, where the latter creates environments and allows for experiences that encourage self-discovery and construction of knowledge
Donnelly	2013	360	The virtual peer supervision sets included only the MSc students (no supervisors) in the same small groups that they had experienced in the f2f tutorials.
		360	These were virtual to allow the students to maintain the dynamic and pace of their learning between f2f group tutorials.
		360	use of technology for supervision is now commonplace and report findings on the use of email for tutor's formative assessment in the early stages of postgraduate supervision.

Table A2.2: Technology tool utilisation			
Authors	**Date**	**Page number**	**Quote**
		366	Considering how technology-enabled connections within the programme and across supervision practices can best happen is important. In the connectivist environment provided by the virtual peer-learning sets, choices needed to be made amongst the students themselves as they had to manage time, set their own learning goals, find resources, try out new tools and make them work
		366	The online logbook entries serve as a basis for clarifying diverse perceptions, and to clearly set out what is achieved and agreed upon at each session.
van Biljon and de Villiers	2013	1455	video conferencing, voice-over IP (VOIP) systems (like Skype) and creating online postgraduate communities. These mechanisms foster student-student communication and peer-review, as well as supervisor-student contact.
Heeralal	2015	99	The following recommendations are made: supervisors need to have more face- to-face contact with students; the use of technologies such as 'Skype', blogs and on-line discussion forums should be encouraged to address the issue of limited face- to-face contact between students and supervisors
Maor and Currie	2017	3	used a network of Web pages inserted into a learning management system (Blackboard) to explore resources and develop an online discussion forum in the UK that encouraged ongoing reflection.
		3	need for greater knowledge and skills in ICT to achieve high-quality research outputs
		3	developed a new online network space which included discussion forums, chats, video conferencing, linked homepages and collaborative writing spaces to combine technology with pedagogy as practice-in-action to improve the supervision relationship.
		3	A wide variety of technologies are now being used in supervision: Skype, Elluminate, Wimba, Second Life, telephone, MSN messenger, Wikis, Microblogging, Social Bookmarking, email, ePortfolio, Microsoft Office Share-Point for collaborative writing and WebCT.
		4	In the use of these new forms of technology, students may actually be defacto in the role of tutor to their supervisors and speed up the process of dissemination of their research results.
		7	Some supervisors were branching out into using other software, such as, iAnnotate (software for annotating PDFs on an iPad):
		8	Most supervisors with distance students reported that they believed Skype was very useful for ensuring regular meetings and for relationship building.
		8	Some also reported using Skype to meet with prospective research candidates prior to making a decision as to whether they would be willing to supervise them

Table A2.2: Technology tool utilisation			
Authors	**Date**	**Page number**	**Quote**
		8	The role of technol- ogy in facilitating a sense of community among students isolated by distance was acknowledged as a step forward: 'that sort of sense of community can be…a potential positive…absolutely
		9	Supervisors reported that some of their students were already professionals in their own fields and that these relationships were more collaborative than hierarchical.
		10	Students often spoke of contacting their supervisors by telephone, texting or email for a quick response to questions, day or night, and supervisors reported the need for boundaries in the context of technological communication.
		11	This student also talked about Skype as a motivating factor: 'To me Skype is a great way to stay in touch with my supervisor to ensure that I am making progress. I have found it is not only putting a name to a face, but having the ability to bounce off ideas or discuss challenges and maintain some degree of motivation towards my research'
		11	I think email is probably not deep enough – a video conference whether it's a Skype call or something like that, just adds that personal piece that my personality probably needs
		12	issue raised by supervisors was the potential for working longer hours and the perception of being always available to respond to students' questions via technol- ogy, and the extra vigilance required to maintain a work-life balance.
		12	The vast majority used email and Skype, which increased the frequency of contact between supervisors and students creating a more intense relationship.
		14	A major change in using Web2.0 technologies is that the learner participates by becoming a co-creator of knowledge. This can happen in the research process as students utilise Web2.0 technologies to collaborate with their supervisors and communities of researchers.
		14	This study demonstrated that as supervisors and their students adopted Web2.0 technologies, supervision became more participatory in nature and lead to greater connectedness and collaboration.
Manyike	2017	7	Therefore, they require guidelines with regard to the use of the internet and literature search for their studies and planning due dates for the regular submission of their work.
		8	Ensuring the availability of internet connectivity and computers by the university and that they work properly is fundamental to the offering of ODeL.

Table A2.2: Technology tool utilisation			
Authors	**Date**	**Page number**	**Quote**
		8	However, since the introduction of video-calling applications such as Skype, which allows a degree of virtual face-to-face interaction, the supervision of postgraduates is now much easier. This very important solution can change the support to students drastically – given that they have the necessary connection for such communication.
		8	However, video calling requires high- speed internet connectivity.
		10	A closed Facebook group is an example of this kind of virtual community, where students can express their dissatisfaction with the supervision process as this may allow for the early detection and resolution of problems, and reduce the dropout rates.
Swarts	2017	231	Finally, the hybrid model combines the traditional and cohort models of supervision, while utilising the environment and communities of people. In this manner individual sessions are combined with elements of a virtual classroom, such as teleconferences, discussion groups and self-paced online courses
Gumbo	2018	55	the ODeL teaching and research are increasingly taking place through a range of e-technologies, e.g. web-based resources, word processors and graphics tools, statistical and qualitative data analysis programmes
		55	The use of ICTs is heralded as one of the possible solutions that can help speed up throughput since it provides a quicker way to manage and carry out supervision, more so if operated online.
		55	This is because postgraduate study is suited to a 'virtual' campus which is associated with the students who are often juggling work and family commitments and who find studying online much easier and often as satisfying than attending lectures on campus
		55	The importance of ICTs in education has inspired a ground-breaking initiative by Mishra and Koehler (2006) and Koehler and Mishra (2008; 2009), which is referred to as technological pedagogical content knowledge (TPCK). TPCK was introduced to the field of educational research in order to understand the teacher knowledge required for effective technology integration
		64	Technology tools to be of use SMS, E-mail, discussion forums, Video conferencing, skype, facebook, dropbox, google drive, Blog, twiiter podcast, wikis, RSS social bookmarking
Gumbo	2019	92	The supervisor-student working relationship, however, presents a human aspect that should take precedence over technology and thus guide how technology can be used in supervision.
		92	Online tool based postgraduate supervision promises to alleviate the work of supervisors especially in an ODL environment in the era that is ruled by technology, online interaction and social networks.

Table A2.2: Technology tool utilisation			
Authors	**Date**	**Page number**	**Quote**
		93	A technological device such as smart cellphone harbours the tools and social media applications that are available for use for postgraduate supervision with a possible improvement in throughput in the ODL context.
		107	This finding contributes a noteworthy consideration in the attempt to involve technology to bridge the distance between the supervisor and student – the human aspect still takes precedence in some supervisors. Face-to-face interaction seems unwelcomed in the 21st era where technology for teaching and
		108	supervisors value the working relationships with their students in their supervision work so to respect the human aspect instead of being carried away by technology without discarding the latter necessarily
		108	supervisors exposed to the wealth of applications or tools and ICTs that they can use to supervise their students successfully and effectively

Table A2.3: Roles and responsibilities

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Authors	**Date**	**Page number**	**Quote**
Teitel	1997	67	The cohort model also changed the power relationships between students and faculty in classes and, overall, led us to consider new approaches to program planning and decision making
		67	both are part-time programs (2 years for the master's/CAGS and 4 years for the doctoral program) and follow roughly the same schedule, with two courses offered during an intensive 3-week summer session, followed by two courses each semester
		68	The doctoral cohort enrols up to 12 students a year, whereas the master's *I*CAGS cohort accepts up to 20.
		68	The doctoral students meet once a month on Saturdays for a one-credit "integrative seminar" that provides an open forum for discussion and connections between and among courses and workplace issues.
		69	The program has an intense time requirement which cuts people off from regular sources of support. The cohort helps fill the void." A 01noted how the support and structured pace helped the student stay in the program
		70	The long-term commitment to each other, especially in the doctoral program (with its closed cohort design and longer term connection) raised concerns about other, less attractive, aspects of interpersonal relationships among the students. In a traditional setting, potential conflicts between students

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Authors	**Date**	**Page number**	**Quote**
		74	The same tight bonding and close connection that led to the levels of trust previously described also gave the cohort members considerably more power in their relationships with faculty members . As a cohort, as a group,it is much easier for us to make suggestions, get involved in more in decision making of curriculum, materials in the class. As a cohort group, by the second set of courses we appeared to be a united front- which must have seemed a bit intimidating to faculties who were new to our group.
		79	Have faculty incorporate content on important sensitive topics into their syllabi and use conscious strategies to solicit deeper responses to sensitive issues, such as reflective journals that are then used to feed back into class discussion
		84	Clarify overall decision-making process so it is clear how much input and involvement students have. Is their role advisory? If community meetings are held, involving faculty and students, are those decision-making meetings? How much leadership legitimately can be taken by students? Furthermore, what kinds of decisions are made at the cohort level, and how much is done at the program level? How much gets left to each group to negotiate?
Burnett	1999	49	Note that the CCM did not replace the individual who was the designated supervisor and chair of the dissertation committee. Each ABD status student had an individual supervisor who was responsible for guiding the student through the production of their dissertation.
Dysthe, Samara and Westrheim	2007		Several studies have raised the issue of authority and power, as well as what kind of identity the writing and supervision relationship fosters in students
Wisker, Robinson and Shacham	2007	304	Supervisors operating at a distance could well experience the joys as well as these difficulties of supervising as existing in something of a vacuum, lacking recognition and support.
Bitzer and Albertyn	2011	881	In the planning process, provision needs to be made for coordination and synergy between role-players to endorse quality, accountability and sustainability. Structured planning and sustained coordination throughout the duration of the postgraduate process should be ensured for each student. This vital coordination role should be decided by the role players within each given context.
de Lange, Pillay and Chikoko	2011	21	supportive practice is underpinned by the following categories: a well planned and organized/co ordinated programme; committed academic staff; and doctoral students who engage with each other's research and research learning in a respectful and meaningful way, to enhance the learning opportunities available.
		22	encourages the idea of students as important partners.
		22	Hence, it is necessary that boundaries are clear and explicit at the very beginning of the working relationship in order to foster lifelong partnerships

Table A2.3: Roles and responsibilities			
Authors	**Date**	**Page number**	**Quote**
		22	A key part of a supportive practice is to engage respectfully with the doctoral students and their work, something we diligently modelled amongst ourselves as academics and which we also encouraged amongst the doctoral students
		22	relationship development is centred on the emotional and relational connections between doctoral students and their supervisors, with emotional intelligence being a key construct.
		22	supervisors should foster the partnerships with their students and encourage research values with integrity, without over powering the students
		22	The importance of modelling, dedication and commitment by the academic staff members is crucial in engendering and sustaining the motivation required to complete the doctorate and to minimize attrition.
		23	A key aspect of the cohort model, as the above excerpts show, is that it provides a space for the students to feel safe enough to engage critically with their own and others' work, and it encourages greater participation
		27	The supervisor in this community is seen as mediator between the student and the discipline or field
Govender and Dhunpath	2011	93	According to the co-ordinator, the role of cohort supervisors is to expose students to multiple views and frameworks. Students are expected to be selective in what they take from the sessions.
		93	She added that the cohort sessions are designed to develop independent scholars and critical thinkers.
		94	members of the cohort were of the opinion that they could count on each other during times of academic and personal stress, and they perceived this social and emotional support as a major advantage of the cohort.
		94	The participants in the Focus Group reflected on the cohesiveness of their cohorts which resulted in the seminar sessions creating social and academic spaces outside the seminars, bringing together members of a cohort over weekends to socialise but which inevitably resulted in their engaging in academic discourses
		95	They contend that "power relations" between principal and co-supervisors can be proactive, enhancing both the research student's achievement and the supervisor's professional development. However, some of the practitioner narratives of co-supervisors recounting their experiences as doctoral students working with principal and co-supervisors reveal the tensions that existed between the supervisors which impacted negatively on the students.
		95	Student A reported that while he had joint meetings with his supervisors, at which common guidance and support were provided, there were other occasions when he received conflicting advice from one or other of his supervisors. In particular, he raised the issue of choice of a data-collection tool which he claimed that his principal supervisor did not reject at a joint meeting with the co-supervisor, but in a private conference with him expressed aversion for the tool.

Table A2.3: Roles and responsibilities			
Authors	**Date**	**Page number**	**Quote**
Samuel and Vithal	2011	83	The inherent hierarchy of the supervisor-student relation and the experienced-novice supervisor is present but minimised by means of strategies such as students' chairing seminar sessions to reduce supervisors' domination and co-construction of the programme of activities for each seminar.
		83	The programme is responsive to the needs of students who have direct input into shaping the programme as it unfolds and through their ongoing evaluations.
Schulze	2011	786	The identified roles and responsibilities of (distance education) supervisors include the following: to maintain regular contact with students; to return written work quickly; to involve students in seminars and to be knowledgeable about the literature available and the key debates in the student's research field
		798	Regarding matching, a student noted that a supervisor should also be interested in the students' research topic.
		799	Previous authors have indicated the value of student peer interaction
		799	supervisors needed to support students in identifying timeframes to reach goals; refer them to various resources and workshops to develop their skills (e.g. writing skills); motivate them to participate in conferences; and contact the students if time passed and they had not submitted work. As role models, they needed to confide their own struggles with research or time management
Govender and Dhunpath	2013	234-240	Roles and responsibilities of supervisors, principal supervisors, co-supervisors
Van Biljon and de Villiers	2013	1453	Shared responsibility: Supervisors share the accountability and responsibility for the research, technica I, administrative and quality aspeds. Back-up on decisions is reassuring and confirmatory.
		1453	Gains in knowledge and experience: Additional expertise, wider pool of ideas which could lead to faster identification of key issues. Knowledge transfer regarding specia I skills, different specialisations, and mentorship within superv1s1on.
		1453	Moderation/mediating effed: Should disputes arise between the student and a supervisor, the other supervisor can mediate.
		1453	More management strategies available: Different roles can be assigned to the supervisors, e.g. leadership in the research process versus content expert. These may also be enaded on the emotional management levels, e.g. 'good cop/bad cop' roles.
		1454	Supervisors share accountability and responsibility for the technical, administrative and quality assurance aspects.
		1454	Refers to the pool of available resources to use in doing the study and also to the sharing of the research outputs in terms of articles and the completion incentive.

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Authors	**Date**	**Page number**	**Quote**
Samuel and Mariaye	2014	515	programme aims deliberatively to diffuse power differentials across academic staff and students, since it is believed that all have the potential to offer new insights into the academic world of knowledge production
		516	The programme also aims to disrupt these power differentials by organising the doctoral students as agents in the design of the programme, the interactive plenary and breakaway sessions. Students are tasked with chairing and scribing each other's work, taking co-responsibility for the development of each other's doctoral work.
		516	Supervisors and co-supervisors are often reconfigured in different group-work sessions, allowing for varied perspectives and scrutiny.
		517	More seasoned staff, acclimatised to former models of master-apprenticeship conceptions of doctoral education, find the shift towards a more democratic culture somewhat threatening of their status as 'supervisors of the PhD'
		517	Re-definitions of roles are not always an easy transition, especially when students are increasingly asserting their individuality and agency. This ultimately entails a re-negotiation around matters of power.
Choy, Delahaye and Saggers	2015	22	cohort supervision for broader support and as a resource base to students. He claims that members' interpersonal relations not only facilitate learning, but also maintain motivation. This is particularly important to overcome isolation, common under traditional approaches to postgraduate research studies
		22	a sense of community fosters learning, and discourages intellectual and professional isolation, and this reduces potential for dropping out.
		22	cohort members need to take self-responsibility, and sustain a high level of patience, courage, humour, commitment, and sensitivity—attributes evident in team learning contexts.
		27	The roles, responsibilities and rights of all parties were negotiated and established up front, but left open to re-negotiation if and when needed. This was to ensure there was no confusion over the entitlement to resources and services and there were no mistaken expectations and assumptions.
		27	a code of practice, although we settled for a verbal agreement only. The group showed early signs of maturity and did not return to re-negotiate the codes.
		32	The appointment of university and departmental coordinators was important for the organisational partnership as well as sustaining the cohort as a community. A coordinator for HDR learning cohorts, even if not sponsored, is highly recommended.
Heeralal	2015	93	indicate that a good supervisor-student relationship is the key factor in the success or failure of students' studies or research work.
		93	sees communication as the postgraduate student's responsibility
		93	Students need to be supported in planning their study, setting objectives and completing the study within agreed upon time frames. Students may also need emotional support in the form of pastoral care.
		93	The supervisor also has the right to expect the students to fulfil their side of 'the contract'

Table A2.3: Roles and responsibilities			
Authors	**Date**	**Page number**	**Quote**
		93	have the right to expect the supervisor to provide quality supervision and for the HEI to facilitate this by creating and implementing appropriate policies.
Rout, Sommervill and Aldous	2015	276	the students must take ownership of the meetings, presenting their projects, defending their work and contributing to the work of others as part of a peer review process.
		276	Novice supervisors, if option 4 is applied, acquire skills in mentorship, group supervision, supervisory advice and positive critique
Wichmann-Hansen, Thomsen and Nordentoft	2015	29	As CAS involves more than one student, there is a risk that supervisors will be inclined to ‘‘teach’’ and ‘‘lecture’’ more than they supervise. On the other hand, there is also a risk of leaving students confused and lacking academic clarity in their projects if supervisors make a conscious attempt not to fall into a didactic role. These contrasting imperatives make it unclear where to draw the line between giving and taking responsibility.
		29	has shown that students value a ‘‘negotiated order’’ model of supervision based on open communication and an honest exchange of opinions.
		29	found that an open and fluid supervisory relationship, including an open and transparent style of communication, is key within higher education. ‘‘When identities are negotiable, expectations between supervisor and student are open to change throughout the supervision process. This may require that both the student and supervisor meta communicate about conversational content and explain their intentions in the ongoing conversation’’
Fynn and Janse van Vuuren	2017	93	The students are responsible to the supervisor for the quality of the research they are conducting and to the institution (e.g. the university) to abide by the regulations it has set for the proper conduct of research.
		93-94	Students also have a personal responsibility for their own learning by, for example: developing research skills and techniques; gaining a deeper awareness of the social and professional implications of the research; enhancing appropriate research management practices; becoming increasingly self-disciplined, motivated thorough, independent and self-reliant; improving communication and information technology skills; learning to use cooperative networks; and developing project management, time management and self-management skills.
Swarts	2017	233	The sustainable learning environment, which is characterised by respect, emancipation and an environment in which students have their own voice, is intertwined with the notion of a nurturing and inspiring environment.
		233	The first step to developing students’ voice is to provide a context in which they feel that any contribution they make to the supervisory process is appreciated.
		234	In particular, the sustainable learning environment removes the control inherent in traditional master-apprentice relationships. To create this environment requires a shift in the supervisory relationship. Supervisory relationships are either power-centred or facilitation-centred
Agné and Morkenstöm	2018	672	These opportunities for learning as provided by collective supervision can be enhanced further by selecting supervisors to suit the specific needs of the students admitted in a particular year (cohort).

Table A2.4: Content knowledge development

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Authors	**Date**	**Page number**	**Quote**
Wisker, Robinson and Sacham	2007	312	Students need to understand the fit between questions and methods and to determine how they will achieve them in terms of permissions, time planning, size, manageability and ability to analyse their data.
			asks students to clarify and focus on *how* their methods and theoretical underpinning enables their outcomes to be approached, their object of study to be pinpointed, clarified and achieved.
			It considers the design of the study, enabling researchers to plan appropriate timings.
			concentrates on ethics, justification for the level of the award, and the coherence of the proposal as a whole.
Govender and Dhunpath	2011	90	The literature on the use of the cohort model for doctoral programmes cites academic success as a significant benefit of the model enabled by, among others, the creation of intellectually stimulating discussions and interaction with professors
		90	The research participants also revealed that the high quality input on various aspects relating to research learning, from the cohort supervisors and invited speakers (during the Friday night plenary sessions) are productive and stimulating.
		90	In particular, they spoke of the insightful discussions on locating research within particular paradigms and matching this with the appropriate research approach and methodology
Samuel and vithal	2011	80	The choice of methodology must be coherently linked to the epistemological framework chosen for the study, in as much as the choice of what one admits as data is influenced by the methodology and epistemological stance of the study.
			The programme allows for all positionalities in the research process to be "put under pressure" (Lather, 2001) offering new ways of approaching one's study.
			Disciplinary or methodological border crossings and the associated risks are encouraged and discussed to enable innovations and new knowledge possibilities. Each member of the group is valued as an intellectual resource.
Schulze	2011	799	Students recommended improving research-methods courses to make them more practical
Samuel and Mariaye	2014	515	The programme has consciously attempted to provide multiple perspectives on research design at PhD level through exposure of all students to each other's topics
		515	through different staff members with different paradigmatic and epistemological preferences (from MIE and UKZN) offering critique and commentary in a collaborative venture during the seminar; and through an onus to expose oneself in a climate of research trust and questioning.
		515	recognising that they do not have the sole interpretation of the 'correct way' in which to design and develop research. Many possibilities are promoted

Table A2.4: Content knowledge development			
Authors	**Date**	**Page number**	**Quote**
Rout, Sommervill and Aldous	2015	276	Postgraduate students need to be inducted into the functional elements of proposal writing, data gathering and reporting, enculturated into a community of scholarly practice, encouraged to think critically about what they are doing and why, emancipated to the point that the student rather than the supervisor owns the research, and given sufficient pastoral care to see them through the inevitable tough times.
Swarts	2017	233	Students are inspired to wonder, to imagine and to pose their own questions. They think about what they are doing and are provided with a platform to share their meanings and to conceptualise and interpret their data. This shift toward the learning process influences student learning not to reproduce the master's own knowledge but to construct their own. In the context of togetherness, the supervisor becomes co-constructor and co-learner.
		234	found that the cohort model of supervision succeeds in creating the sustainable learning environment that I have described, and that the five elements of learning are positively reinforced.
Winberg and Winberg	2018	95	supervisors and collaborators ise workshops that cover topics such as reviewing the literature, referencing, research design and methods and research problem-solving
Agné and Morkenstöm	2018	672	Doctoral students need access to knowledge on methodological and theoretical issues (Dysthe et al., 2006), as well as on practical matters such as how to write an article and how to create a research network

Table A2.5: Research engagement

Table A2.5: Research engagement			
Authors	**Date**	**Page number**	**Quote**
Teitel	1997	67	At the same time, we saw that the bonding and connection that developed among the students could also lead to unanticipated impacts: deeper discussions of sensitive issues, as well as interpersonal conflicts, cliques, and a sense on the part of students that they can get locked into set roles within the cohort.
de Lange Pillay and Chikoko	2011	23	The defining quality of a learning community is that there is a culture of learning in which everyone is participating in a collective effort of understanding.
		23	learning in a cohort works in ways to advance collective knowledge and in that way supports the growth of individual knowledge
		23	experiencing the freedom to comment and use each others' diverse knowledge and skills as resources to collaboratively solve problems and advance their understanding goes beyond the development of scholarship

Table A2.5: Research engagement			
Authors	**Date**	**Page number**	**Quote**
Santicola	2013	255	Cohort programs are designed where the members have the same series of classes and are taught by the same faculty members. In general, cohorts consist of a small group of students with the goal of working together and providing support to one another throughout this process.
Wichmann-Hansen, Thomsen and Nordentoft	2015	29	The implied student in the Master Programme in Guidance and Counselling is expected to integrate practical experience with theory in an academic manner, and also to acknowledge that the CAS setup is as a key learning practice in supporting this integration.
		30	He or she is expected to balance two different implied demands: on one hand, individual academic excellence as recognized by the supervisors and within the discipline; and, on the other hand, adherence to the peer notion of CAS, creating mutual learning opportunities by contributing with knowledge and resources.

Table A2.6: Scaffolded learning

Table A2.6: Scaffolded learning			
Authors	**Date**	**Page number**	**Quote**
Wisker, Robinson and Sacham	2007	311	Early learning conversations or interactions between guardian supervisors, supervisors and students in our programme have two aims: Establishing supervisory relationships and learning conversations to enable better future supervisory conversations and interactions, often operating at a distance. 2. Focus on students' development of the research proposal and conceptual frameworks to enable development of appropriate research design and scaffolding for their research, and to identify skills and skills gaps in order to address these in the future work on research methods and practices.
de Lange, Pillay and Chikoko	2011	18	The scaffolding of learning and development, which the cohort model creates through its processes, is not a taught doctoral programme.
Samuel and Vithal	2011	83	scaffolded learning - Each activity of the doctoral programme is used as a scaffolding to reach the ultimate goal of producing better quality and more broadly trained researchers, while simultaneously leading towards the production of the thesis report. This scaffolding, which is provided through a structured programme, is critical and keeps doctoral students on the task. Having to attend a seminar and account for progress made (or lack thereof) makes for self-regulatory pressure.
van Biljon, van dyk and Naidoo	2014	166	The scaffolding steps allow the challenges and questions to be passed upwards until resolved, while solutions and advice move downwards.

Table A2.6: Scaffolded learning			
Authors	**Date**	**Page number**	**Quote**
Picard, Wilkinson and Wirthensohn	2011	957	The online environment was identified as potentially useful for facilitating scaffolded supervision discussions and pedagogy, since the use of Web 2.0 applications such as social networks, online discussions boards, wikis and peer sharing tools has become common in educational environments.
Samuel and Vithal	2011	83	The programme also generates the possibilities for many different disciplines to potentially influence a study by scaffolding methodological and disciplinary border crossings.
		84	a philosophy of scaffolded learning where the support is offered around the learner researcher's present potential, with the view of enabling them with building blocks for reaching a new higher level of competence.

Table A2.7: Feedback

Table A2.7: Feedback			
Authors	**Date**	**Page number**	**Quote**
Burnett	1999	48	The student's role in the cohort involved attending cohort meetings either in person or by teleconferencing. If neither of these options was possible the student submitted a written progress report that was discussed during the meeting; the student was then provided with written feedback
		48	after receiving training from the faculty member in editing and providing critical feedback on academic documents cohort members reviewed and provided feedback on the proposal documents for two other students in the cohort and on the draft dissertation documents for two other students.
		49	The role of the coordinating faculty member was to (a) organize and structure meetings, (b) facilitate the meeting using a previously circulated formal agenda. (c) produce two or three cohort newsletters per academic year. (d) establish communication mechanisms (including postal. e-mail, and tele- or video communication) for cohort members, (e) teach editing and constructive feedback skills, and (f) structure links between students. buddies, and reviewers.
		49	Students acquired writing, editing, and critical feedback skills
Dysthe, Samara and Westrheim	2007	303	From a dialogical point of view, feedback must involve active participation from the student in order to foster the growth and transformation of understandings necessary to be enculturated into a community of practice
		305	The discussions and feedback in supervision groups were strictly project-based, and catered primarily for the intellectual side of students.

Table A2.7: Feedback			
Authors	**Date**	**Page number**	**Quote**
		305	comments (focus students). Before each meeting the focus students sent their texts to the rest of the group with a note explaining the type of text and what they would like feedback on. At the beginning of each session the focus students were advised not to respond (explain or defend) to the comments made.
		311	Feedback on written text was the central activity of the supervision groups.
		311	It is interesting that trust, safety, sensitivity and respect top the list. This tells us that feedback has a very strong relational component that cannot be disregarded in any supervision context, particularly in groups. All the students also underlined the importance of good preparation for the group sessions, and their annoyance with fellow students and supervisors who just improvised feedback.
		313	The students became active participants in these repertoires, through alternating between the role of the supervisee and the supervisor by giving feedback to texts following clear rules and routines.
de Lange, Pillay and Chikoko	2011	22	productive working relationships with the supervisors who provide feedback
		23	expressive function of feedback, which comprised praise, criticism, and supervisor's opinion" is valuable and is of most benefit to the student.
		25	The feedback to the students should therefore be helpful and release the energy and enthusiasm to sustain the doctoral learning.
Govender and Dhunpath	2011	94	Likewise, the appointed supervisors are expected to be part of the community of practice created (or ostensibly created) within the cohort programme, with appointed supervisors valuing feedback on their students' work from cohort supervisors. While
Schulze	2011	796	To facilitate quick feedback, students recommended using electronic mail, and that supervisors should not be overloaded with students
		786	encouragement and emotional support, supervisors that give written feedback in a distance-education context, could start and end their feedback with positive comments, and 'sandwich' the criticism in between
		796	An overwhelming 33 references were made to the role of the supervisor in facilitating self-belief. The students mentioned quick and constructive feedback, regular contact, encouragement and confidence in the student.
	2014	167	propose scaffolding feedback as a mechanism to positively impact on students' ability to engage in self-regulated learning and academic achievement

Table A2.7: Feedback			
Authors	**Date**	**Page number**	**Quote**
van Biljon, van dyk and Naidoo		168	The PCM provides eight of the nine different levels of scaffolding including *Orientation* and *communication of expectation* as set in the tutorial letter, *coaching* as done via the Wiki, *eliciting articulation* as promoted by the group assignment, *task support* in designing the questionnaire, *expert regulation* in the detail feedback on assignments, *conceptual scaffolding* in marking the group and initial assignments and providing detail and overview evaluation, *procedural scaffolding* in structuring the research design and timelines and *strategic scaffolding* providing clear, concise research questions that are designed to provide the necessary and sufficient data for addressing the main question.
		172	PCSM provides structure to ensure timely and detailed feedback to both students and supervisors that focuses on 'learning' rather than praise
Choy, Delahaye and Saggers	2015	21	Their development followed four main schedules: (i) a week long residential workshop; (ii) formation and fostering of a community of learners; (iii) nourishing scholarship; and (iv) ongoing cohort learning opportunities. In addition, we also progressively evaluated the design at the reaction level using student evaluation surveys, group discussions, feedback from cohort sponsor representatives and our reflective notes
		27	students developed group relationships through voluntary participation, sharing goals, and offering non-evaluative feedback in an environment that was supportive, yet sometimes challenging.
Heeralal	2015	93	aspects of postgraduate supervision that may be characterised as these students' expectations: communication, support, feedback and critical disclosure.
		94	Students expect prompt and constructive feedback from their supervisors. This aspect of supervision needs to be incorporated into the supervisor/supervisee agreement that both parties agree upon before undertaking the research journey.
		94	In an ODL environment almost all the feedback is given to students electronically. De Beer and Mason (in Schultz 2012, 6) point out that electronic communication has disadvantages that include the fact that there can be misunderstandings. It is therefore important for supervisors to check with students if they understand the comments that they have made.
Wichmann-Hansen, Thomsen and Nordentoft	2015	20	Especially within the field of writing research the role of peer learning in supervision has been explored. There is strong evidence for the effectiveness of peer feedback and group writing processes from studies of group supervision where students work on different subjects, facilitated by a supervisor and based on text feedback from students and the supervisor
		29	Moreover, supervisors could conclude each CAS session by inviting students to reflect upon their participation and providing their feedback to the group
		30	implied student, as revealed in the network meetings, is a student who is well-prepared, analytical and curious, and actively participating in discussions and peer-feedback without being too dominating or critical.

Table A2.7: Feedback			
Authors	**Date**	**Page number**	**Quote**
		31	It remains a tacit rule for the students. Supervisors know that professional academic conversations among peers require a range of subtle communication skills, including the ability to be prepared, sensitive, and respectful when giving feedback
Fynn and Janse van Vuuren	2017	195	emotional impact of distance study can be linked to a sense of isolation and fear/anxiety, which can be linked to failure and insecurity about learning that may manifest as anxiety in regard to receiving feedback from the supervisor. Developing peer-support mechanisms to address the emotional stress associated with feedback and to reduce the feelings of isolation could play a key role in postgraduate success
Maor and Currie	2017	12	Some supervisors reported sensitivity on the part of their graduate students in receiving feedback, and that written feedback could appear not only more harsh, but also overwhelming to see many revisions and comments, and importantly, demotivating.
		12	levels, academics are required to provide written feedback of online assessment submissions and that becoming more accustomed to adapting to this form of feedback is a necessity.
Manyike	2017	5	Both the experienced and novice supervisors expressed the need for effective communication in supervising postgraduate students through ODeL. However, the procedures used for effective communication differed with regard to the content and the quality of the feedback.
		5	Collaboration between experienced and novice supervisors could enhance the quality of feedback and communication. This would enable the two groups of supervisors to develop shared varied experiences on what quality feedback entails, and allow them to reflect on their comments to students.
		5	In an ODeL institution, the written feedback from students on the meetings held with the super- visor also assists the supervisors to identify the students' needs with regard to their proficiency skills in terms of their academic writing.

Table A2.8: Reflective practices

Table A2.8: Reflective practices			
Authors	**Date**	**Page number**	**Quote**
Teitel	1997	80	Develop a culture of honest talk about sensitive issues, through modeling by faculty and sharing by previous cohorts
Louirero, Huet, Babtista and Casanova	2010	170	the importance of engaging research supervisors in reflective practice was highlighted, in particular when focused on personal experiences from an evidence-based research point of view: it can have consequences not only for the individual him/herself, but also for the institution.
		170	In fact, a reflection process grounded on theory supports the experience described in this instance, by pursuing a “reflection-on-action” approach
		170	A reflective path was shared, aiming to contribute towards an engagement of postgraduate research supervisors at critical and reflective moments regarding different past events and involving them in “turning experience into learning
		170	Reflection and questioning moments are essential to enhance the quality of post- graduate research supervision processes.
		170	Practices must therefore be shared, disseminated, evaluated and strategically planned for further improvement of the supervision process
de Lange Pillay and Chikoko	2011	23	The cohort system allows doctoral students an opportunity to present their own work and be critiqued, so as to learn from each other, and also to develop the skill of reflection
		23	while listening to the other students’ presentations, they are able to reflect on what can be learnt from the research experiences of their peers, and apply that to their own work.
		24	Kolb’s (in Kelly, 1997) early model highlights four key aspects of reflective practice, i.e. experiencing (immersion in the task); reflection (what did you notice?); conceptualise (what does it mean?) and planning (what will happen next? what do you want to change?).
		24	The doctoral candidate is immersed in the task of doctoral work, and presents an aspect of it to the cohort, putting it out in the “public domain” for “testing
		24	cohort provides a critique upon which the candidate can reflect, and conceptualise what the critique means for his or her work. Such reflection then requires further immersion in their research so as to think and plan what needs to be changed
		24	reflecting on others’ research, reflecting on one’s own research, and reflecting on one’s own critique of others.

Table A2.8: Reflective practices			
Authors	**Date**	**Page number**	**Quote**
		24	As such, the engagement with others' work is understood as 'learning by doing' and places the candidate in a position to fully re engage with his or her own work,
		24	One of the most difficult things to do in research is to look critically at one's own work. This is largely due to being too deeply involved in the work and not being able to look at it from a distance, and also due to not having sufficient time to think.
		24	cohort programme allows input from the other students and the academic staff and also some time for reflection
		24	The fact that all the students are at the same stage of their research journey and are grappling with similar issues, encourages reflection on the critique offered, allowing them to weigh up the value and importance of the critique
		25	The cohort programme provides opportunities for students to work within a supportive community of peers and creates space to develop their capacity to critique their own and others' texts
Wichmann-Hansen, Thomsen and Nordentoft	2015	29	would create a legitimate space for students to regularly reflect upon and evaluate the supervision.
Maor and Currie	2017	13	described the idea of self-reflection to change practices in supervision.
		13	Built into the methodology for this project was reflection on the supervisors' practices and as seen above this type of self- reflection yielded changes within the practices of some of the supervisors over the course of our study.

Table A2.9: Enculturation

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Authors	**Date**	**Page number**	**Quote**
Dysthe, Samara and Westrheim	2007	299	while student colloquia provided personal support and served as a first filter for ideas and texts, the supervision groups provided multivoiced feedback on student texts and enculturation into the discipline. Individual supervision provided more specific advice.
		310	The supervision groups served many functions, but we have chosen to highlight multivoicedness and disciplinary enculturation as the most central.
Bitzer and Albertyn	2011	879	Group processes also seem to enhance the enculturation process and help emerging researchers to establish their researcher identity while simultaneously focusing on skill development
de Lange, Pillay and Chikoko	2011	22	Supervisors in the cohort play an important role in guiding and gradually introducing the students to becoming part of the academic community through enculturation
Donnelly	2013	360	The aim of the group tutorials was to provide diversity in feedback and peer review on student work along with enculturation into the applied research discipline. Multiple readers of the work presented provided critical opposition and thus helped develop the students' ability to handle different perspectives in their work.
Fynn and Janse van Vuuren	2017	197	Enculturation into disciplinary practices extends beyond developing an understanding of the disciplinary academic discourses and includes inculcating an understanding of the disciplinary norms and practices that often remain undocumented and implicit. A community of practice can be viewed as collective learning within a shared domain of human endeavour in which there is commitment to a specific goal characterised by mutual engagement
Agné and Morkenstöm	2018	672	With implications for TTC, collective supervision has also been argued to facilitate enculturation, that is, the process through which doctoral students are allowed to gradually acquire the values and behaviours of a research practice community

Table A2.10: Connectivism

Table A2.10: Connectivism			
Authors	**Date**	**Page number**	**Quote**
Teitel	1997	78	Most students come in with little idea or experience of what an interdependent cohort model of graduate school education could or should look like. For some, the cohort model is just an organizational structure, a pattern that means the courses they need will be available when they need them; the rest of the interconnections with classmates are a bonus-maybe desired, and maybe not. They are surprised when it appears they are being asked to develop deeper connections among students.
Dysthe, Samara and Westrheim	2007	314	supervision groups tells us that there is a need to develop new forms of academic practice where there is room for multiple voices
		314	In both the colloquia and super- vision groups, the students received response on their texts which came from various perspectives, at times conflicting. This interaction of voices enabled students to crit- ically reflect on the various perspectives and appropriate the discipline's languages and practices.
Samuel and Vithal	2011	84	The increasing value of working in inter-, multi- and juxtadisciplinary ways has become the hallmark of researchers and designers of new knowledge systems. The interconnected realities of different valuing systems, their impact and influence on each other are regarded as providing opportunities for new insights to be fostered.
		84	The cohort programme is designed to draw on students and staff from multiple paradigmatic perspectives, with multiple orientations and methodological perspectives to educational research. It also encourages drawing students from a wide range of fields
		85	Students and staff from these multiple perspectives bring into the programme a range of resources to activate fresh, or different ways of engaging with the pursuits of research.
		85	Serendipity refers to the effect of finding interesting or valuable resource, in particular when one is not looking for it. There is a tendency to limit one's horizons by the heritages one brings into the research endeavour. These may be framed from one's own epistemological backgrounds, racialised or geographic positions, vantage points to accumulated habitual observation or articulated reasoning.
		85	In the doctoral study collaborative programme various vantages are offered to potentially co-influence one's studies. Many students have reported that simply listening to others talk about their own studies is never a neutral phenomenon.
Donnelly	2013	359	Connectivism has been heralded as a theory for the digital age

Table A2.10: Connectivism			
Authors	**Date**	**Page number**	**Quote**
		359	Key principles of connectivism that inform the process of blended research supervision on this programme are: that learning and knowledge rests in diversity of opinions; learning is a process of connecting specialised nodes or information sources; nurturing and maintaining connections is needed to facilitate continual learning; the ability to see connections between fields, ideas and concepts is a core skill; currency (accurate, up-to-date knowledge) is the intent of the group supervision process and activities; and that decision-making is itself a learning process
		359	The starting point for applying connectivist principles to the research supervision process occurs when knowledge is actuated through the process of a learner connecting to and feeding information into a learning community.
		359	a community is the clustering of similar areas of interest that allows for interaction, sharing, dialoguing and thinking together.
		360	The fostering of a sense of connectedness among students themselves and between students and supervisors appeared to lead to what was called 'a supervision community' by the students.
		363	within a connectivist framework, learning and knowledge rests in diversity of opinions. This diversity was most easily recognised by the modelling of critical thinking on the topic by the supervisors in the group tutorials.
Van Biljon and De Villiers	2013	1455	The most important advantage listed for co-supervision is *subject knowledge transfer* and the most prevalent disadvantage is *reduced efficiency*. A significant difference in experience or content know ledge is seen as an indicator for co-supervision
Fynn and Janse van Vuuren	2017	190	Connectivism is a theoretical framework that regards learning through the creation of networks. It maintains that students develop a network by making new connections with information sources, thereby expanding their capacity to learn
		190	Connectivism thus commences with individuals who gain and retain knowledge
		190	through their personal networks.
		190	By making use of these networks, individuals contribute their personal knowledge to an organisation.
		190	Connectivism emphasises diversity (Downes, 2008) and makes it a priority to teach everyone to build on personal strengths and develop individual learning pathways.
		191	learning occurs during the course of 'connecting entities'
		191	This emphasises the importance of having a large capacity for new knowledge, which in return will allow access to the knowledge available in the network
		195	In terms of the types of additional support required during postgraduate studies, emotional support appeared to be the most common need among students

Table A2.10: Connectivism			
Authors	**Date**	**Page number**	**Quote**
		196	Drawing on the connectivist approach to learning and the findings of the current study, we propose an alternative, complementary framework that would allow both student and supervisor to access the shared networks and thus develop a personal learning environment.

Table A2.11: Communication

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Authors	**Date**	**Page number**	**Quote**
Wisher, Robinson and Sacham	2007	312	The second supervision concentrates on how the research methods fit the research questions and conceptual framework.
		312	Students are encouraged to answer questions about their research question and aims; how their conceptual framework springs from this; how their research methods have enabled them to action and direct their research; and how their analyses, findings and results grow from the question and methods
Dysthe, Samara and Westrheim	2007	302	Supervision is a communicative activity and needs to be based on theories of language and communication.
		303	When learning is understood as participation in a community of practice, dialogic activities take place, both on an interpersonal level in specific situations and at the level of sociocultural activities which transcend situations.
		303	dialogic activities involving, for instance, institutional routines, the use of linguistic resources and repertoires, and ways of thinking, talking and acting.
de Lange, Pillay and Chikoko	2011	21	Through critical engagement and participation, the cohort model is more than just a student supervisor relationship. Rather, it is about “the importance of collaborative knowledge sharing environments and collective models of supervision”
		21	views postgraduate students “as one of the most important sources contributing to the development of new knowledge
		22	We circulated the contact details of all the students in the cohort to each other which encouraged sharing and communication between and amongst the doctoral students. We also sent out brief notes, recommended readings and the negotiated plans for the coming seminar, clearly indicating what advance work was required.
Schulze	2011	786	Supervisors also need to explore their own biases or lack of knowledge about different cultures and facilitate respect and open communication in multicultural supervision

Table A2.11: Communication			
Authors	**Date**	**Page number**	**Quote**
Heeralal	2015	93	describes communication in an ODL environment as a form of faceless encounter via telephone, cell phone and email or the *myUnisa* platform. *MyUnisa* is an online platform where postgraduate information is available to students.
Wichmann-Hansen, Thomsen and Nordentoft	2015	31	Consequently, transparency and reflexivity regarding behavioural norms and academic expectations are especially important in CAS, and again it stresses the importance of metacommunication as a core part of supervisors' repertoire of strategies when practicing collective supervision
Manyike	2017	6	The meetings held with supervisors are important, be- cause most of the postgraduate students registered at UNISA are English second language speakers with varying levels of language proficiency, and they come from diverse cultural backgrounds
		6	This relationship can only be realised through effective communication between both the students and the supervisors, and that they all are able to meet the agreed-upon times.
		6	The supervisors who participated in this study all
			agreed that it was important to give detailed guidance to ODeL postgraduate students

Table A2.12: Dialogue promotion

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Authors	**Date**	**Page number**	**Quote**
Wisker, Robinson and Sacham	2007	304	All research is a dialogue with other experts. As supervisors we need to be aware of different motivational tensions, backgrounds and perceptions, as well as research practices which our students bring as they approach the research process. We need to engage in dialogue with students, encouraging them to engage in dialogue with published work in the field, a tall order for the supervisor and student alike and one which, like other stages in the research process, could benefit from the supportive stages of brainstorming, sharing, modelling and identifying group bonding as good practice.
		305	Without the opportunity to engage in critique and dialogue about their work with others, including supervisors, the research might only be a work of deference and synthesis.
		311	As guardian supervisors, we work with each student individually several times during his or her development as a PhD student, accompanying the research programme at each stage with at least three opportunities for a supervisory dialogue aimed at moving the student's work on further.

Table A2.12: Dialogue promotion			
Authors	**Date**	**Page number**	**Quote**
		311	Individual dialogues at each stage of this programme are clearly focused. Initially, the focus is (1) on research questions, identifying a conceptual framework, choosing and defending methodologies and methods and (2) developing aspects of the proposal to be effective, cohesive and realistic
		311	The dialogues encourage students to define and describe their methods and defend them first on paper, then through dialogues with supervisors and latterly with peers to help clarify the processes and show the logical links, or lack of them, between outcomes and methods to enable the student to achieve these research outcomes
		311	At the beginning of research, dialogues seek clarity in planning and processes while the end supervisory dialogues pinpoint and ask for logical connections to be made and argued through, asking students to 'tell the story' of the research, to develop and argue a visualisation of the research journey.
		312	In the first stage of the research development programme, the *first* supervision dialogue clarifies the research time, aims and focus, questions, conceptual framework and theoretical underpinnings.
		312	Learning conversations and supervisory dialogues towards the end of the postgraduate research project include dialogues clarifying the conceptual framework, contribution to knowledge, argument etc. of the work, and mock vivas
Dysthe, Samara and Westrheim	2007	302	Dialogism is not only compatible with situated learning, but is fundamental to socio- cultural perspectives on learning, for instance, the idea that meaning is created in the interaction between dialogue partners.
		303	Accordingly, supervision practices include, on the one hand, specific dialogues between the candidate and the supervisor, or between group participants
		311	Training in response strategies was necessary in order to break old feedback patterns and help us find a balance between free dialogue and systematic and prepared feedback'
Louirero, Huet, Babtista and Casanova	2010	157	An online CoP was created through the use of ICT, with shared goals, domain and repertoire (Wenger 1998), where several collaborative activities took place, such as sharing, discussing, and testing ideas, problems, and ongoing work. Open and free dialogue communication took place, allowing for the development of both oral and writing skills.
De Lange, Pillay and Chikoko	2011	18	The team supervision that is made available through the seminars is not so much what the supervisors literally 'transmit' pedagogically, but rather how they enable the development of a critical exchange or dialogue between the student and the discipline.
		18	This dialogue is achieved by encouraging learning between and within a community of novice researchers.
		19	Lee's (2008) typology of research supervision approaches is helpful in understanding student support and learning through the cohort model of supervision. Effective support produces a new identity for the postgraduate student, Lee's (2008) typology of research supervision approaches is helpful in understanding student support and learning through the cohort model of supervision. Effective support produces a new

Table A2.12: Dialogue promotion			
Authors	**Date**	**Page number**	**Quote**
			identity for the postgraduate student, learning and new ideas of autonomy and independent scholarship opportunities that promote critical exchange or dialogue between the student and the discipline
		27	To advance collective knowledge in research, as a way to support the growth of individual knowledge, the cohort programme makes available particular kinds of learning opportunities to support the movement of the student from novice to expert. In exploring what capacities are being developed and by what means, the shared dialogue is real, relevant and often inspiring
Santicola	2013	256	After this occurs, collaborative learning will take place where students and teachers engage in joint inquiry by sharing ideas and experiences which fosters dialogue from multiple perspectives
Samuel and Mariaye	2014	514	programme has the following underpinning philosophical threads. The programme aims explicitly and implicitly to connect both the local and global research theoretical landscapes. The key focus is on drawing dialogue
Wichmann-Hansen, Thomsen and Nordentoft	2015	19	The term ‘‘academic’’ is emphasised because it implies a particular approach to knowledge which not only takes place in writing, but also in systematic and critical dialogues with peers and members of the academic community
Maor and Currie	2017	14	strongest pedagogical supervision approach throughout this literature was the dialogue between the students and supervisors and the emphasis on being part of a community to achieve collaboration
		14	New technologies when combined with participatory pedagogy may provide the context to sustain such a community with ongoing dialogue, reflection and the ability to co-create knowledge.

Table A2.13: Group work / Communities of practice

Table A2.13: Group work / Communities of practice			
Authors	**Date**	**Page number**	**Quote**
Teitel	1997	69	students already were seeing many of the networking and connection benefits we had hoped for in setting up the cohorts; there were even a few early positive indications about retention.
		70	*Engagement in class discussion is almost immediate-even in new classes. Classmates who have missed classes have been called by cohort members. As mutual trust increases, the class has begun to take on more difficult topics*
Dysthe, Samara and Westrheim	2007	313	One of our clearest findings was that *students benefited from involvement in fellow students' projects*. Many students were surprised to find that reading and discussing peer projects was so useful for their own.
		313	Engaging in peer projects turned out to be a bonus, not a waste of time, but the point we want to make is that, when the goal is the production of individual theses, such mutual engagement does not happen by itself.
		313	The colloquia groups set the premises for the joint enterprise by functioning as an arena for the students to get to know each other, create a safe environment and try out their texts.
		314	Our student informants clearly stated that they gained self-confidence from taking part in colloquia and supervision groups, and that this helped them voice their own opinions.
Wisker, Robinson and Shacham	2007	305	Interactions and learning conversations based on insights and good use of development and experience are essential. If these can be built up, made explicit and shared around a cohort or community of practice over time, then both students and supervisors will benefit through developmental learning interactions and supportive relationships nurturing conceptually complex, appropriately developed, articulated research work.
Glover	2010	125	They then ordered the eight methods of cooperative learning for their effectiveness: Learning Together; Academic Controversy; Student-Team-Achievement Divisions; Teams-Games-Tournaments; Group Investigation; Jigsaw; Teams-Assisted-Individualisation; and Cooperative Integrated Reading and Composition. In general they note that, while differences in the way achievement [is] measured [...] make these findings tentative', that 'all methods [of cooperation] are effective in achieving improvement', although 'results are not guaranteed'
de Lange, Pillay and Chikoko	2010	27	Doctoral students and supervisors are linked to each other by having the same objective. In this instance, they are working collaboratively towards developing capacities and supporting scholarly autonomy, especially regarding the different roles that students take on during their journey towards the completion of their study
Bitzer and Albertyn	2011	879	Groups can vary from being a collection of individuals with similar levels of experience to those at varying stages in the research process to being groups of students alone or mixed supervisor-and-student groups

Table A2.13: Group work / Communities of practice			
Authors	**Date**	**Page number**	**Quote**
		879	Group supervision is also seen as a way of diffusing power and increasing social learning in collaborative and collective environments
		879	students saw the supervisor as being paramount in the process, but they gave equal credit to the influence of the research group.
		879	that interacting with peers helped students produce higher quality dissertations.
		880	that seminars provided collaborative knowledge-sharing environments that helped lessen uncertainty and confusion and sanctioned academic-intellectual work. This supervisory practice developed the research capacity of both supervisors and students
		880	support networks with postgraduate peers contribute towards developing academic networks for professional development. Students gain insights in contributing and interacting; they move away from doing, to reflecting on the thinking behind actions
Govender and Dhunpath	2011	90	In addition to cultivating a supportive co-operative and interactive learning community, it simultaneously gives voice to each candidate
		90	Membership in a cohort exposes one to a pool of professionals which enriches and expands the learning experiences of each candidate as s/he develops in the programme
		91	The issue of individual development together with group development and giving students a voice is also deliberated by Galvin (1991), who contends that an interactive learning community fosters both teachers' and students' willingness to freely exchange ideas, feelings, questions, and dispute with comfort, listen carefully to others and evaluate with freedom.
		91	Respondents in the focus group raised the issue of students acquiring a voice in the cohort seminar sessions as they developed personally and grew in confidence through imbibing critical input from cohort supervisors and visiting scholars in the field of research.
		93	Responses from the majority of the students indicate that they were offered varying perspectives on their proposed study which they found enriching and empowering. It provided them opportunities to approach their study from new and refreshing angles or to clarify their research focus with benefit of multiple insights.
		93	However, one of the students found the differing, at times conflicting, perspectives offered by the cohort supervisors problematic rather than beneficial. The constant changes made to his proposed study made it difficult for him to clarify his focus.
		93	Some of the participants in the Focus Group who are current cohort supervisors were of the opinion that there were too many supervisors allocated to each cohort and this, in addition to submerging student voices, pulled students in too many different directions, often leaving them confused.
		93	students were forced to submit to pressure from the cohort supervisors to change the focus of their studies against their own inclinations.

Table A2.13: Group work / Communities of practice			
Authors	**Date**	**Page number**	**Quote**
Schulze	2011	786	Interaction with peers during such meetings is motivational, facilitates research learning and develops confidence
		796	One student mentioned the motivational value of conferences. Three others mentioned the usefulness of Unisa workshops
		800	Unisa needs to provide opportunities for peer interaction. Considering that Unisa is a distance-education institution, innovative thinking is needed on how to provide peer interaction
Donnelly	2013	367	For successful participation in group supervision from a supervisor perspective, they need to embrace the potential of collaboration with fellow supervisors.
Santicola	2013	253	Cohort programs are designed where the members have the same series of classes and are taught by the same faculty members. In general, cohorts consist of a small group of students with the goal of working together and providing support to one another throughout this process.
Choy, Delahaye and Saggers	2015	21	team learning is a norm, mainly attributed to students working on related projects and sharing common laboratory or field spaces that present spontaneous situations for rich interactions. Groups of students at different stages in their science projects work alongside each other and are commonly supervised by a single supervisor.
		22	need to be specifically developed to foster relationships and responsibilities to sustain on-going learning and support for each member.
		22	suggested that a sense of ownership, personal investment and mutual dependency essential for cementing the type of relationships are needed to maintain cohortness to achieve individual and group goals.
		22	development of a sense of ownership, personal investment and mutual dependency.
Wichmann-Hansen, Thomsen and Nordentoft	2015	29	Small-group teaching is an activity that resembles CAS because it is based on the notion of peer interaction among a smaller group of students.
			Similarly, supervisors could incorporate small-class teaching activities like buzz-groups, think-pair-share in dyads, etc. that position the supervisor in a more facilitative role, and then provide a forum for metacommunication about these choices.
		30	but expectations that focus especially on students' interaction and collaboration with their peers. This is understandable since peer- learning is the bearing principle of CAS. A more interesting finding is perhaps that supervisors indirectly assess students' individual academic performance and learning needs on the basis of their collective behaviour during supervision meetings
Manyike	2017	6	Although postgraduate students are expected to actively participate in their own learning, it could be enhanced if they are given the opportunity to work in groups, and thus establishing a 'community of practice.'
		6	The lack of knowledge of the supervision process illustrates that most postgraduate students need workshops for guidance.

Table A2.13: Group work / Communities of practice			
Authors	**Date**	**Page number**	**Quote**
		6	All the supervisors should participate in such workshops, as this would also assist the novice supervisors to identify the students' needs and to develop their own supervisory skills.
		6	Postgraduate students could also collaborate with their peers, and this would ease their feeling of isolation and improve the quality of their work.
		7	Working collaboratively is in line with Manathunga's (2012) observation that for super- vision to be successful, explicit instructions should be given to postgraduate students.
Agné and Morkenstöm	2018	671	Peer learning is helpful in respect of doctoral supervision as the skills needed to create something as complex as a doctoral thesis are sometimes communicated more effectively by peers than by senior colleagues for whom solutions may be obvious, resulting in a failure to clearly identify problems in the first place
		672	Furthermore, it has been noted that students perceive peer learning as creative and reflexive
Winberg and Winberg	2018	102	Important tool is cohort supervision meetings which involve presentations, training on specialised tools and seminars or round-table discussions led by the postgraduate researchers.
		102	meetings were supplemented by online collaborative using google docs, dropbox and skype meetings

A3: Thematic analysis synopsis

The embedded document provides an example of the thematic analysis conducted during the completion of Study 1.

Table A3: Thematic analysis synopsis

Table A3: Thematic analysis synopsis		
Themes	**Examples from the log of collected data**	**Connection with theoretical framework**
Structured programme that provides time and space for the development of leaning opportunities	"Specifically, cohorts help participants in relation to motivation, maintaining momentum, commenting on work in progress, providing critiques of developing and final drafts of writing, and providing support" (Wisker et al., 2007:309) "The programme offers structured cohort supervision in the writing of major research components" (Glover, 2010:124). "The cohort model was set up as a structure to support intellectual development and knowledge production through a community of learning" (De Lange et al., 2011:17). "Learning through a cohort model has a three-fold structure: students learn to become researchers and knowledge producers through a range of activities (peer review, oral presentations, defending work in progress) while simultaneously learning to supervise; staff learn about supervision (mentoring / team supervision, offering supervisory advice and critique) and there is collaborative support for learning through each of the phases (progress)" (De Lange et al., 2011:18).	Lee (2008): quality relationships Garrison and Aykol (2013): teaching presence
Technology tools to be used to expand cohort supervision activities and encourage engagement	"Supervision environments mediated by ICT can offer a richer environment, increase time and space flexibility and support the use of different strategies to provide a greater interaction between postgraduates and their supervisors and increase the availability of supervisors" (Loureiro et al., 2010:155). "The online environment was identified as potentially useful for facilitating scaffolded supervision discussions and pedagogy since the use of Web 2.0 applications such as social	Lee (2008): functionality; quality relationships; enculturation Garrison and Aykol (2013): teaching presence; cognitive presence; social presence

Table A3: Thematic analysis synopsis		
Themes	**Examples from the log of collected data**	**Connection with theoretical framework**
	networks, online discussion boards, Wikis and peer sharing tools has become common in the educational environments" (Picard et al., 2011:957). "A major change in using Web 2.0 technologies is that the learner participates by becoming a co-creator of knowledge. This can happen in the research process as students utilise Web 2.0 technologies to collaborate with their supervisors and communities of researchers" (Maor & Currie, 2017:14).	
Resource requirements to create and maintain cohort supervision	"Without purposeful faculty nurturance, departmental collaboration and administrative guidance, the cohort model simply becomes a convenience tool" (Govender & Dhunpath, 2011:90). "Infrastructure barriers include lack of access to learning materials (i.e. journal articles), technology and the internet together with its reliability and cost of connectivity" (Fynn & Janse van Vuuren, 2017:188). "Apart from the technical and disciplinary expertise provided by supervisors, the types of support needs reported by students include emotional, financial and infrastructural needs" (Fynn & Janse van Vuuren, 2017:196). "The ODeL teaching and research are increasingly taking place through a range of web-based resources, word processors and graphic tools, statistical and qualitative data analysis programs" (Gumbo, 2018:55). "Research supervision requires infrastructural resources and academic communities that are intellectually, socially and geographically dispersed" (Winberg & Winberg, 2018:95).	Lee (2008): functionality; quality relationships; enculturation Garrison and Aykol (2013): teaching presence; cognitive presence; social presence
Roles and responsibilities of key stakeholders	"In the planning process, provision needs to be made for coordination and synergy between role-players to endorse quality, accountability and sustainability. Structured planning, sustained coordination throughput for the duration of the postgraduate process is to be be ensured for each student. This vital coordination role should	Lee (2008): functionality; quality relationships; enculturation; emancipation Garrison and Aykol (2013): teaching presence; cognitive

Table A3: Thematic analysis synopsis		
Themes	**Examples from the log of collected data**	**Connection with theoretical framework**
	be decided by the role-players within each given context" (Bitzer & Albertyn, 2011: 881). "The identified roles and responsibilities of distance education supervisors include the following: to maintain regular contact with students, to return written work quickly, to involve students in seminars" (Schulze, 2011:786). "Cohort members need to take self-responsibility, and sustain a high level of patience, courage, humour, commitments and sensitivity" (Choy et al., 2015:22). "Opportunities for learning as provided by collective supervision can be enhanced further by selecting supervisors to suit thespecific needs of the students admitted in a particular cohort" (Agné & Mörkenstam, 2018:672).	presence; social presence
Monitoring of the research process using cohort supervision	"Without the opportunity to engage in critique and dialogue about the work with others, including supervisors, the research might only be a work of deference and synthesis" (Wisker et al., 2007:305). "Some students referred to how the cohort system forced them to pace themselves effectively by setting timeframes for the completion of tasks and ensuring that they adhered to the timeframes" (Govender and Dhunpath, 2011:227). "Supervisors needed to support students in identifying timeframes to reach goals, refer them to various resources and workshops to develop their skills, motivate them to participate in conferences and contact the students if time passed and they had not submitted their work" (Schulze, 2011:799). "The cohort supervisor acted as a group supervisor as well. This was considered useful monitoring the group supervisors experience" (Van Biljon et al., 2014:167).	Lee (2008): functionality; quality relationships; critical thinking Garrison and Aykol (2013): teaching presence; cognitive presence
Content knowledge development to improve methodological content knowledge	"Students need to understand the fit between questions and methods and to determine how they will achieve them in terms of permissions, time planning, size, manageability and ability to analyse data" (Wisker et al., 2007:312).	Lee (2008): critical thinking; enculturation, emancipation

Table A3: Thematic analysis synopsis		
Themes	**Examples from the log of collected data**	**Connection with theoretical framework**
	"Postgraduate students need to be inducted into the functional elements of proposal writing, data gathering and reporting, enculturated into a community of scholarly practice, encouraged to think critically about what they are doing and why, emancipated to the point that the student rather than the supervisor owns the research" (Rout et al., 2015:276). "Supervisors and collaborators use workshops that cover issues such as reviewing the literature, referencing, research design and methods and research problem-solving" (Winberg & Winberg, 2018: 95).	Garrison and Aykol (2013): teaching presence; cognitive presence
Engagement in own research as well as that of others	"Experiencing the freedom to comment and use each other's diverse knowledge and skills as resources to collaboratively solve problems and advance their understanding" (De Lange et al., 2011:23). "Students developed group relationships through voluntary participation, sharing goals, and offering non-evaluative feedback in an environment that was supportive, yet sometimes challenging" (Choy et al., 2015:27). "He or she is expected to balance two different implied demands: on the one hand, individual academic excellence as recognised by the supervisors and within the discipline; and, on the other hand, adherence to the peer notion, creating mutual learning opportunities by contributing with knowledge and resources" (Wichmann-Hansen et al., 2015:30).	Lee (2008): quality relationships; critical thinking; enculturation; emancipation Garrison and Aykol (2013): teaching presence; cognitive presence; social presence
Scaffolded learning to develop research knowledge and skills	"Each activity is used as a scaffold to reach the ultimate goal of producing better quality and more broadly trained researchers" (Samuel & Vithal, 2011:83). "A philosophy of scaffolded learning is required where the support is offered around the student's present potential, with the view of enabling them with building blocks for reaching to new higher levels of competence" (Schulze, 2011:786).	Lee (2008): critical thinking; enculturation Garrison and Aykol (2013): cognitive presence
Feedback to encourage critique and reflection	"To facilitate quick feedback, students recommend using electronic mail, and that	Lee (2008): critical thinking; quality

Table A3: Thematic analysis synopsis		
Themes	**Examples from the log of collected data**	**Connection with theoretical framework**
	supervisors should not be overloaded with students" (Schulze, 2011:796). "The aim of group tutorials is to provide diversity in feedback and peer review on student work. Multiple readers of the work presented, provided critical opposition and thus helped develop the students' ability to handle different perspectives in their work" (Donnelly, 2013:360). "Scaffolding feedback is to be used as a mechanism to positively impact on students' ability to engage in self-regulated learning and academic achievement" (Van Biljon et al., 2014:167). "Aspects of postgraduate supervision that may be characterised as students' expectations: communication, support, feedback and critical disclosure" (Heeralal, 2015:93). "Establish communication mechanisms (including postal, e-mail, and tele- or video communication)" (Burnett, 1999:49). "Networks aid the dissemination of skills and information and keep students in touch with each other. With this kind of communication not only can they support each other and discuss ideas and findings and so on" (Wisker et al., 2007:317). "Disadvantages of electronic communication include its inability to read body language cues and facial expressions; the difficulties surrounding the process of checking one's understanding of material" (De Beer & Mason, 2009:223). "Communication in an ODeL environment is a form of faceless encounter via telephone, cell phone, email or the myUNISA platform" (Heeralal, 2015:93). "Supervisors know that professional academic conversations among peers require a range of subtle communication skills, including the ability to be prepared, sensitive and respectful when giving feedback" (Wichmann-Hansen et al., 2015:31).	relationships; enculturation Garrison and Aykol (2013): teaching presence; cognitive presence;

Table A3: Thematic analysis synopsis		
Themes	**Examples from the log of collected data**	**Connection with theoretical framework**
Reflection-on-action to identify progression and value of the cohort process	"A reflection process grounded on theory supports the experience described by pursuing a reflection-on-action approach. Reflection and questioning moments are essential to enhance the quality of postgraduate research supervision processes" (Loureiro, 2010:170). "Kolb's early model highlights four key aspects of reflective practice, i.e. experiencing (immersion in the task); reflection (what did you notice?); conceptualise (what does it mean?) and planning (what will happen next? what do you want to change?)" (De Lange et al., 2011:24). "Self-reflection yielded changes within the practice of some of the supervisors" (Maor & Currie, 2017:13).	Lee (2008): critical thinking; quality relationships; enculturation Garrison and Aykol (2013): cognitive presence;
Group work to encourage engagement	"The general aim of the alternative model was, on the one hand, to counteract the negative effects of students having to rely on just one person for supervision, and, on the other, to investigate the potential of group learning in the research and writing processes" (Dysthe, et al., 2007:300). "Place the cohort, workshop or group experience at the centre of the supervisory experience for students undertaking a research higher degree" (Glover, 2010: 124). "Positive interdependence means the group process is structured in such a way that when one member of the group benefits, the other group member also benefits" (Van Biljon et al., 2014:166). "Our purpose was to develop member relationships early in the group formation within a supportive and challenging environment, one that also maintained a balance between group and individual development" (Choy et al., 2015:27).	Lee (2008): functionality; quality relationships; critical thinking Garrison and Aykol (2013): teaching presence; cognitive presence; social presence
Dialogue promotion to communicate about research goals	"Open and free dialogue communication took place, allowing for the development of both oral and writing skills" (Loureiro, 2010:157). "The team supervision that is made available through the seminars is how they enable the development of a critical exchange or dialogue between the student and the discipline" (De Lange, et al., 2011:18).	Lee (2008): functionality; quality relationships; enculturation; critical thinking Garrison and Aykol (2013): teaching presence; cognitive

Table A3: Thematic analysis synopsis		
Themes	**Examples from the log of collected data**	**Connection with theoretical framework**
	"The programme aims explicitly and implicitly to connect both the local and global research theoretical landscape. The key focus is on drawing dialogue" (Samuel and Mariaye, 2014:514). "New technologies when combined with participatory pedagogy may provide the context to sustain such a community with ongoing dialogue, reflection and the ability to co-create knowledge" (Maor & Currie, 2017:14).	presence; social presence
Through enculturation and emancipation promote communities of practice	"The foundations of learning cohorts are informed mainly by the theory of social constructivism concept of community of practice" (Choy et al., 2015:20). "Experienced supervisors appeared to be able to provide students with the structure of the thesis as well as with realistic schedules which further assisted students in planning their work and calls for a 'community of practice' among supervisors to work collaboratively and share their experiences" (Manyike, 2017:7).	Lee (2008): quality relationships; enculturation; critical thinking Garrison and Aykol (2013): social presence
Through the process of empowerment, promote scholarly engagement	"While student colloquia provided personal support and served as a first filter for ideas and texts, the supervision groups provided multi-voiced feedback on student texts and enculturation into the discipline" (Dysthe et al., 2007:299). "Group processes also seem to enhance the enculturation process and help emerging researchers to establish their researcher identity while simultaneously focusing on skill development" (Bitzer & Albertyn, 2011:879). "Enculturation into disciplinary practices extends beyond developing an understanding of the disciplinary academic discourses and includes inculcating an understanding of the disciplinary norms and practices that often remain undocumented and implicit" (Fynn & Janse van Vuuren, 2017:197).	Lee (2008): enculturation; critical thinking; emancipation Garrison and Aykol (2013): cognitive presence; social presence

Annexure B: Interview guide

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INTERVIEW GUIDE

Dear Participant

Thank you for taking the time to discuss the cohort supervision process with me. Just to clarify again, within the context of the proposed study, the intent is to critically explore the conceptual framework towards a postgraduate cohort supervision framework as an alternative supervision approach at an ODeL institution. As part of the initial e-mail wherein the consent form was provided to you, an outline of a proposed cohort supervision framework, as envisaged by the researcher, was also provided. In terms of using the cohort supervision framework as proposed by the researcher, as well as the cohort supervision approach used within your organisation / department, please provide me with detailed information on the following:

1. How do you define cohort supervision?
2. What do you think is the motivation behind the decision to use cohort supervision for you (your organisation / department)?
3. What is the process that you (your organisation / department) follow to plan for the use of the cohort supervision approach?
4. What structure and format do you follow to ensure that students obtain sufficient support from all supervisors involved?
5. What conflict do you experience in the execution of the cohort supervision approach, and how do you manage such conflict?
6. What for you, are the positive effects in using the cohort supervision approach?
7. How do students react to the cohort supervision approach in terms of learning and engagement opportunities? Can you expand on both their positive and negative views?
8. How do you encourage student participation?
9. Do you use technology to engage with students during the cohort supervision process? If so, what type of technology do you use and to what extent?
10. Do you have administrative support that assist with the execution of the cohort supervision approach? If so, what are the responsibilities of such administrators?
11. What other support do you think is required to ensure the successful execution of the cohort supervision approach?

12. Would you recommend the use of this cohort supervision approach to other academics? Can you elaborate on your answer?
13. What key components of cohort supervision do you think should be considered in a distance education environment?
14. Do you think that the application of a cohort supervision approach in a distance education context is feasible? Please elaborate on your answer.

Annexure C: Consent Form

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CONSENT TO PARTICIPATE IN RESEARCH

You are invited to take part in a study conducted by Dr Lorette Jacobs, from the Department of Curriculum Studies at Stellenbosch University. You were approached as a possible participant because you are engaged in the planning, development or execution of cohort supervision of postgraduate students at an academic institution.

1. PURPOSE OF THE STUDY

The research has its starting point in the demand for supervision that is made complex by the increasing number of postgraduate students and the diversity of these students within a distance education environment. Research on the cohort supervision approach is vital, since improving the quality of and increasing the number of students graduating at postgraduate level may improve the preparation of prospective students to engage in increasing the research output of the country. Increasing research related to the utilisation of the cohort supervision approach is even more important in an open distance e-learning (ODeL) environment, where supervision challenges are numerous. The achievement of key components of cohort supervision, such as extended supervision support, scaffolding of learning and student engagement, is therefore reliant on the application of online technology. Within the context of the proposed study, the intent is to critically explore the cohort supervision approach and the conceptual framework for applying it as an alternative supervision framework for postgraduate students at an ODeL university.

2. WHAT WILL BE ASKED OF ME?

If you agree to take part in this study, you will be asked to provide detail on how the cohort supervision process is planned and executed within the institution / department where you work. You will be asked to explain the processes followed as well as how technology is used (if at all) to engage with the postgraduate students. You will be asked to comment on the positive and negative of cohort supervision and provide tips or guidelines to others who are interested in embarking on the cohort supervision process in their organisations / departments. The estimated time of the interview should not exceed 20 minutes and only one interview per participant will be identified.

3. POSSIBLE RISKS AND DISCOMFORTS

Possible risks that may be experience may relate to the time required to conduct the interviews within the very busy academic timeframe of potential participants. Participants will not be asked to mention their institutions and no detail on academic institutions using cohort supervision will be included in the study. The key questions relate to the process and issue related to offering cohort supervision. As the researcher is dependent upon the willingness of participants to engage in the interviews, interview times will be structured when it is most convenient for the participants.

4. POSSIBLE BENEFITS TO PARTICIPANTS AND/OR TO THE SOCIETY

Providing detail on how cohort supervision will be of benefit will assist other academics and academic institutions to learn from the experience of those who have already embarked on and improved supervision processes aimed to increase the number of postgraduate student throughput rates.

5. PAYMENT FOR PARTICIPATION

There will be no payment for participation. Participation is completely voluntary.

6. PROTECTION OF YOUR INFORMATION, CONFIDENTIALITY AND IDENTITY

Any information you share with me during this study and that could possibly identify you as a participant will be protected. This will be done by respecting the freedom and right of participants not to answer questions if they are uncomfortable with the question; ensure justice by distributing the transcribed interview to respective participants; omitting any information about the name or institution of the participant from the information included in the presentation of findings; using coding to identify various participants but not using any personal / organisational detail in the presentation of findings; storing data on an external hard drive that can be locked up and secured so that data on the interviews are not available via the cloud. Only the researcher will have access to the interview information, and the respective participant who will be asked to verify the validity of the transcriptions of the research interviews. Detail about the participants or their organisations will not be made available and the information will not be shared with any other party or agency for any other reason.

Participants will have the option to opt-out of the interviews either during the interview process or thereafter by informing the researcher via e-mail that they would not want the information provided during the interview to be used as part of the study. The findings of the research will be used for future publications in accredited journals but again, the focus is on understanding the processes and methods to be applied to develop and implement a cohort supervision process in an ODeL institution. All data obtained via interviews will be utilised towards that purpose and not to compare or make known issues identified within specific academic institutions or specific academics. The focus remains on how cohort supervision can be used with success in and ODeL institution, using technology as a method of encouraging engagement and support.

All interviews will be recorded and transcribed. The transcribed information will be shared via e-mail with individual participants to determine the validity and correctness of the information shared during the interview process. Any amendments suggested by participants will be made to the transcribed records. Key information from the participants about the cohort supervision planning and implementation process will be used as part of the research. No personal information of the participant or relevant organisation will be used. The transcribed interview information will be deleted after completion of the research and the degree. As already indicated, the research will be published in accredited journals. To protect the anonymity and confidentiality of the participants, only coding information will be used to present key views of participants. At no point will the personal or organisational information of participants be made known.

7. PARTICIPATION AND WITHDRAWAL

You can choose whether to be in this study or not. If you agree to take part in this study, you may withdraw at any time without any consequence. You may also refuse to answer any questions you don't want to answer and still remain in the study. The researcher may withdraw you from this study if you are not engaging in the planning, design or execution of the cohort supervision method aimed to improve the throughput rate of postgraduate students.

8. RESEARCHERS' CONTACT INFORMATION

If you have any questions or concerns about this study, please feel free to contact Dr Lorette Jacobs at jacobslorette@gmail.com and/or the supervisors, Prof Liezl Frick at BLF@sun.ac.za or Prof Peter Rule at prule2015@sun.ac.za

9. RIGHTS OF RESEARCH PARTICIPANTS

You may withdraw your consent at any time and discontinue participation without penalty. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research participant, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development.

DECLARATION OF CONSENT BY THE PARTICIPANT

As the participant I confirm that:

- I have read the above information and it is written in a language that I am comfortable with.
- I have had a chance to ask questions and all my questions have been answered.
- All issues related to privacy, and the confidentiality and use of the information I provide, have been explained.

By signing below, I _____ *(name of participant)* agree to take part in this research study, as conducted by Lorette Jacobs.

_____ _____

Signature of Participant **Date**